From:

Seharaseyon, Jegatheesan

Sent:

Wednesday, October 26, 2005 10:45 AM

To:

STIC-Biotech/ChemLib

Subject:

Re: 10/719472

Importance:

High

Please search SEQ ID NO: 2 and 3 in commercial databases.

Thanks, Seyon.

J.Seharaseyon Art Unit 1647 Remsen 4C61 Mailbox 4C70

Phone: (571)-272-0892 Fax: (571)-273-0892 RECEIVED

OCT 26 2003

LCH/CHEN DIVI

Searcher:
Searcher Phone:
Date Searcher Picked up:
Date completed:
Searcher Prep Time:
Online Time:

Тур	e of Search
NA#	AA#:
S/L:	Oligomer:
Encode/Tra	ansl:
Structure #	:Text:
Inventor:_	Litigation:

endors and cost where applicable
STN:
DIALOG:
QUESTEL/ORBIT:
LEXIS/NEXIS:
SEQUENCE SYSTEM:
WWW/Internet:
Other (Specify):

Line we will be build wichen

```
COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: Tab PLC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CLASSIFICATION DATA:
APPLICATION NUMBER: US/08/438,753B
FILING DATE: 10-MAY-1995
CLASSIFICATION NUMBER: US 08/139,891
FILING DATE: 19-OCT-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-OCT-1992
ATORNEY/AGENT INFORMATION:
APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-OCT-1992
ATORNEY/AGENT INFORMATION:
APPLICATION NUMBER: US 07/969,890
FILING DATE: 310-OCT-1992
ATORNEY/AGENT INFORMATION:
TELEPHONE: 415-234-0880
TELEPHONE: 415-234-0880
TELEPHONE: 415-234-0880
TELEPHONE: ALS-234-0880
TELEPHONE: CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
STATE: CA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2, Appli
2, Appli
2, Appli
2, Appli
2, Appli
18, Appli
2, Appli
3, Appli
4, Appli
18, Appli
18, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Appli
Appli
                                                                         October 28, 2005, 14:51:03; Search time 24.5 Seconds (without alignments) 524.067 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44,
                                                                                                                                                         1 CYLSRKIMLDARENLKLLDR.....TVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2,
Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1
Sequence 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence Sequence Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1
Sequence 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 'Sequence 'Sequence '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                            lssued Patents AA:*
l: /cgn2 6/ptodata/1/iaa/5A COMB.pep:*
l: /cgn2 6/ptodata/1/iaa/5B COMB.pep:*
l: /cgn2 6/ptodata/1/iaa/6B COMB.pep:*
l: /cgn2 6/ptodata/1/iaa/6B COMB.pep:*
l: /cgn2 6/ptodata/1/iaa/PCTUS COMB.pep:*
l: /cgn2 6/ptodata/1/iaa/PCTUS COMB.pep:*
l: /cgn2 6/ptodata/1/iaa/PCTUS COMB.pep:*
GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-631-328-2
US-08-455-524B-2
US-09-045-467-2
US-09-045-467-2
US-09-599-413-2
US-09-599-413-3
US-09-599-413-4
US-09-599-413-4
US-09-599-413-4
US-09-599-413-4
US-09-599-413-4
US-09-599-413-4
US-09-599-413-10
                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-443-883A-44
                                                                                                                                                                                                                             513545 segs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                 OM protein - protein search, using sw model
                                                                                                                                                                                     BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                           US-10-719-472-2
907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query
Match Length
         Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                     Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database :
                                                                                                                                                            Sequence:
                                                                                                                                                                                                                             Searched:
                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Result
No.
```

28	612	67.5	172	0	US-08-631-328-4	Sequence 4, Appli
29	612	67.5	172	7	US-08-631-328-44	Sequence 44, Appl
30	612	67.5	172	~	US-08-455-524B-4	Sequence 4, Appli
31	612	67.5	172	7	US-08-455-524B-44	44
32	612	67.5	172	~	US-08-455-021B-4	4
33	612	67.5	172	~	US-08-455-021B-44	44
34	612	67.5	172	m	US-09-045-467-4	4
35	612	67.5	172	ო	US-09-045-467-44	44
36	612	67.5	172	ო	US-08-616-904-4	4
37	612	67.5	195	-	US-08-438-753B-12	12,
38	612	67.5	195	1	US-08-443-883A-12	12
39	612	67.5	195	~	US-08-631-328-12	12,
40	612	67.5	195	7	US-08-455-524B-12	Sequence 12, Appl
41	612	67.5	195	7	US-08-455-021B-12	12,
42	612	67.5	195	m	US-09-045-467-12	12,
43	604	9.99	171	-	US-08-438-753B-30	30,
44	604	9.99	171	-	US-08-443-883A-30	30,
45	604	9.99	171	~	US-08-631-328-30	Sequence 30, Appl
					ALIGNMENTS	
E 100 C						
KESULT I US-08-438-753B-2	8-753B-	(7)				
; Sequen	ce 2, A	Sequence 2, Application US/08438753B	ν us/	0843	18753B	
; Patent	Patent No. 5705363	atent No. 5705363 CEMEDAL INFORMATION:				
APP	APPLICANT:	Imakawa.		Kazuhito	Q	
TIL	LE OF I			erfe	Interferon Tau Compositions and	
; TIT	LE OF I	TITLE OF INVENTION:	_	Methods	of Use	
NON .	NUMBER OF	SEQUENCES:	44			
	GESPOND	· SARGICA RONNING ANDRESS	000			

```
INDIVIDUAL ISOLATE:
; INDIVIDUAL ISOLATE:
US-08-631-328-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                              ; INDIVIDUAL
US-08-443-883A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-631-328-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                ö
                                                                                                                                                                                                                                                                                 61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                       LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                9
                                                                                                                                                                  1 CYLSRKIMIDARENLKILDRANRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                             1 CYLSRKIMIDARENLKILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                     KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                              ..
0
                                                                                  100.0%; Score 907; DB 1; Length 172; 100.0%; Pred. No. 4.6e-100; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Ott, Troy L.
APPLICANT: Ott, Troy L.
APPLICANT: Van Heeke, Gino
APPLICANT: Imakawa, Kazuhito
TITLE OF INVENTION: Interferon Tau Compositions and
TITLE OF INVENTION: Methods of Use
NUMBER OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehling:
  amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/443,883A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEE: Deblinger & Associates
: 350 Cambridge Ave., Suite 250
Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5600-0001.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PLICASIFICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 08/139,891
FILING DATE: 19-0CT-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1989
FILING DATE: 30-0CT-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/08443883A Patent No. 5738845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Bazer, Fuller W.
APPLICANT: Johnson, Howard M.
APPLICANT: Pontzer, Carol H.
APPLICANT: Ott, Troy L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       33,875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Fabian, Gary R.
REGIESTRATION NUMBER: 33,875
REFERENCE/DOCKET NUMBER: 56
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: 415-324-0960
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                              Query Match
Best Local Similarity 100.(
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
INDIVIDUAL ISOLATE:
; INDIVIDUAL ISOLATE:
US-08-438-7538-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-443-883A-2
                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
                                                                                                                                                                                                                                                                                                                                        ò
```

```
61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRQQWGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                  1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                1 CYLSRKIMLDARENLKILIDRMNRLSPHSCLQDRKDFGIPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                            100.0%; Score 907; DB 1; Length 172; 100.0%; Pred. No. 4.6e-100; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Johnson, Howard M.
APPLICANT: Johnson, Howard H.
APPLICANT: Subramaniam, Prem S.
TITLE OF INVENTION: Hybrid Interferon Compositions and
TITLE OF INVENTION: Methods of Use
NUMBER OF SEQUENCES: 55
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
                                                                                                      amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER KEALBLE FORDS

COMPUTER: Floppy disk

COMPUTER: IBM PC Compatible

COMPUTER: IBM PC COMPATIBLE

COMPUTER: DAY GISTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/631,328

FILING DATE: 12-APR-1996

CLASSIFTCATION: 435

PRIOR APPLICATION NUMBER: US 08/438,753

FILING DATE: 10-MAY-1995

ATONES: ATONEY/AGENT INFORMATION:

NAME: Sholtz, Charles K.

REGISTRATION NUMBER: 38,615

REGISTRATION NUMBER: 38,615

RECOMMUNICATION INFORMATION:

TELEPHONE: 415-324-0860

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUDRESSEE: Deblinger & Associates STREET: 350 Cambridge Ave., Suite 250 CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/08631328
Patent No. 5939286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       : 172 amino acids
amino acid
                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 172; Conservative
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
INDIVIDUAL ISOLATE: am
INDIVIDUAL ISOLATE: aw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
```

```
TELEPHONE: 415-324-080
TELEFAX: 415-324-0960
INFORMATION FOR SEQ ID NO:
                               MOLECULE TYPE: protein ORIGINAL SOURCE: INDIVIDUAL ISOLATE: FINDIVIDUAL ISOLATE: CONTROLATE: CONTROLAT
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                             ; MOLECULE TYPE;
; ORIGINAL SOUF;
; INDIVIDUAL;
; INDIVIDUAL
US-08-455-5248-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-455-021B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                 61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                               1 CYLSRKIMIDARENLKILDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                           ö
                                         Length 172;
                                                                                                                      Indela
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: TIBM PC compatible
COMPUTER: TIBM PC compatible
COMPUTER: TIBM PC compatible
COMPUTER: TIBM PC compatible
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/455,524B
FILING DATE: 31-MAY-1995
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08/438,753
FILING DATE: 10-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/139,891
FILING DATE: 19-OCT-1993
PRIOR APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: US-MAR-1989
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 30-OCT-1992
ATCHING DATE: 30-OCT-1992
ATCHING DATE: 30-OCT-1992
ATCHING APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-OCT-1992
ATCHING APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-OCT-1992
ATCHING DATE: 30-OCT-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Bazer, Fuller W.
APPLICANT: Johnson, Howard M.
APPLICANT: Johnson, Howard M.
APPLICANT: Ort, Troy L.
APPLICANT: Ott, Troy L.
APPLICANT: Van Heeke, Gino
TITLE OF INVENTION: Interferon Tau Compositions and
TITLE OF SEQUENCES: 4
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                               Query Match
100.0%; Score 907; DB 2; L. Best Local Similarity 100.0%; Pred. No. 4.6e-100; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
STATE: CS
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5600-0001.32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2, Application US/08455524B
Patent No. 5942223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38,615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Sholtz, Charles K.
REGISTRATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 56
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 172 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-455-524B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                            61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                 1 CYLSRKCMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                              1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLOKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ô
                                                                                                  Length 172;
                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Bazer, Fuller W.
APPLICANT: Johnson, Howard M.
APPLICANT: Oct, Troy L.
APPLICANT: Oct, Troy L.
APPLICANT: Imakawa, Kazuhito
TITLE OF INVENTION: Interferon Tau Compositions and
TITLE OF INVENTION: Methods of Use
NUMBER OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
amino acid sequence of a mature
OvIFNtau protein
                                                                                                     Query Match 100.0%; Score 907; DB 2; L
Best Local Similarity 100.0%; Pred. No. 4.6e-100;
Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA.
PELLCATION UNBER: US/08/455,021B
FILING DATE: 31-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Sholtz, Charles K.
REGISTRATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 5600-0001.31
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-324-0880
TELEFAX: 415-324-0960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 19-0CT-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/318,050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US 07/318,050 FILING DATE: 02-MAR-1989 PRIOR APPLICATION DATA: APPLICATION NUMBER: US 07/969,890 FILING DATE: 30-OCT-1992 ATTOMNEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/08455021B
GENERAL INFORMATION:
APPLICANT: Bazer, Fuller W.
```

```
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: Johnson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
US-08-954-395A-18
                                                                                                                                                                                                            US-09-045-467-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ठ
                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 LQOSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKIMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                             1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                     Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER FARAMABLE FURNITY

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OSOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/045,467
FILING DATE: 20-Mar-1998
CLASSIFICATION: <UNKnown>
PRIOR APPLICATION OF CURNOWN>
PRIOR APPLICATION NUMBER: US 08/455,021
FILING DATE: 31-MAY-1995
APPLICATION NUMBER: US 08/438,753
FILING DATE: 19-CCT-1993
APPLICATION NUMBER: US 07/847,741
FILING DATE: 19-CCT-1993
APPLICATION NUMBER: US 07/318,050
FILING DATE: 09-MAR-1992
APPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1999
APPLICATION NUMBER: US 07/318,050
FILING DATE: 30-MAR-1999
APPLICATION NUMBER: US 07/318,050
FILING DATE: 30-MAR-1999
APPLICATION NUMBER: US 07/318,050
FILING DATE: 30-MAR-1999
APPLICATION NUMBER: US 07/318,050
                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Johnson, Howard M.
Pontzer. Carol H.
TITLE OF INVENTION: Interferor Tau Compositions and Methods of Use
                                                                                                                                       amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                             100.0%; Score 907; DB 2; L
100.0%; Pred. No. 4.6e-100;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
ADDRESSEE: Deblinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
STATE: CA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Dehlinger, Peter J.
REGISTATION NUMBER: 28,006
REFERENCE/DOCKET NUMBER: 5600-0001.36
TELECOMMUNICATION INFORMATION:
TELEFRAN: 650-324-0860
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
US-09-045-467-2
; Sequence 2, Application US/09045467
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94306
COMPUTER READABLE FORM:
                 LENGTH: 172 amino acide
TYPE: amino acide
TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 172; Conservative
SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acid
                                                                                                                                     INDIVIDUAL ISOLATE: INDIVIDUAL ISOLATE:
                                                                                                                                                                                   US-08-455-021B-2
                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQWGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSRKIMIDARENLKILDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                       1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                          INDIVIDUAL ISOLATE: amino acid sequence of a mature
                                                                                                                                                                                                                                                       Length 172;
                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lip T.
LOW-TOXICITY HUMAN INTERFERON-ALPHA
                                                                                                                                                                                                                                                  Query Match 100.0%; Score 907; DB 3; L
Best Local Similarity 100.0%; Pred. No. 4.6e-100;
Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEC for Windows Version 2.0
SOFTWARE: FastSEC for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,395A
FILING DATE: Filed Herewith
CLASSIFFICATION: 435
PRIOR APPLICATION NUMBER: 08/631,328
APPLICATION NUMBER: 12-APR-1996
FILING DATE: 12-APR-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                     OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUNKESSEE: LUNGESS: STREET: 350 Cambridge Ave., Suite 250 CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5600-0001.35
                                                                                                                                                                       SEQUENCE DESCRIPTION: SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Subramaniam, Prem S. APPLICANT: Pontzer, Carol H. APPLICANT: Villarete, Lorelie H. APPLICANT: Campos, Jackeline APPLICANT: Chung, Albert D. APPLICANT: Li, Wayne W. TITLE OF INVENTION: LOW-TOXICITY H. TITLE OF INVENTION: LOW-TOXICITY H. TITLE OF INVENTION: ANALOG NUMBER OF SEQUENCES: 35 CORRESPONDENCE ADDRESS: ADDRESSE: Dehlinger & Associate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 18, Application US/08954395A Patent No. 6204022
LENGTH: 172 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Dehlinger, Peter J
REGISTRATION NUMBER: 27008
REFERENCE/DOCKET NUMBER: 56
TELECOMMUNICATION INFORMATION: 650-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Johnson, Howard M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 650-324-0960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94306
COMPUTER READABLE FORM:
```

Ŋ

```
셤
                                                                                                                                     ò
                                                                                                                                                                        В
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                      61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                               61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                            1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                   1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIURVEMMRALTUSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                     .
0
                                                                                                                                                                                            100.0%; Score 907; DB 3; Length 172; 100.0%; Pred. No. 4.6e-100; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Scot, Jeanne M.
APPLICANT: Schiffenbauer, Joel
APPLICANT: Schiffenbauer, Joel
APPLICANT: Johnson, Howard M.
TITLE OF INVENTION: Compositions and Methods
NUMBER OF SEQUENCES:
ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acid sequence of a mature OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER FRADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
CORRATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/616,904
FILING DATE: 15-MAR-1996
CLASSIFICATION: 514
ATTONNEY/AGENT INFORMATION:
NAME: Sholtz. Charles K.
REGISTRATION NUMBER: 38,615
TELEPHONE: 415-324-0860
TELEPHONE: 415-324-0860
                                                                                                          ; LIBRARY: GenBank Accessn. Y00287, PID g1358
; CLONE: Ovine IFN-tau, mature protein
US-08-954-395A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/08616904
Patent No. 6372206
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 415-324-0960
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 172 amino acids TYPE: amino acid
                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Matches 172; Conservative
                TYPE: amino acid
STRANDEDNESS: single
monortoGY: linear
                                                         TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INDIVIDUAL ISOLATE: INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: line
MOLECULE TYPE: p
ORIGINAL SOURCE:
                                                                                              IMMEDIATE SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-616-904-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-616-904-2
                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

100.0%; Score 907; DB 3; Length 172;

Query Match

```
ö
                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LOOSFNLFYTEHSSAAWDITLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                        61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Pontzer, Carol H
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
TITLE OF INVENTION: Interferon tau
CURRENT SELENCE: interferon tau
CURRENT APPLICATION NUMBER: US/09/599,413
CURRENT FILING DATE: 2000-06-22
PRIOR PELICANTON NUMBER: 60/140,411
PRIOR FILING DATE: 199-06-22
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Pontzer, Carol H
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
CURRENT APPLICATION NUMBER: US/09/599,413
CURRENT FILING DATE: 2000-06-22
PRIOR APPLICATION NUMBER: 60/140,411
PRIOR PILING DATE: 1999-06-22
COMMUNER OF SEQ IN NOS: 20
                                                                                                        1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CYLSRKIMIDARENLKILDRMNRISPHSCLÓDRKDFGLÞQEMVEGDQLÓKDQAFPVLYEM
                                                                        1 CYLSRKIMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLOKRLTKMGGDLNSP 172
                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                        Indels
100.0%; Pred. No. 4.6e-100;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 900; DB 4;
Pred. No. 3.1e-99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-599-413-2; Sequence 2, Application US/09599413; Patent No. 6833256; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-59-413-7; Sequence 7, Application US/09599413; Patent No. 6833256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patentin Ver. 2.1
                        Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 99.4
Matches 171; Conservative
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: ovine US-09-599-413-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TYPE: PRT
; ORGANISM: ovine
US-09-599-413-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE:
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 7
```

ဖ

```
셤
                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                        61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                   1 CYLSRKIMIDARENLKILDRANRISPHSCLQDRKDFGLPQEMVEGDQLQXDQAFPVLYEM 60
                                                                                                                                                                1 CYLSRKIMIDARENIKILIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLKDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLODRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PATENL NO. COLLING.

GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TILE REFERENCE:
TILE REFERENCE:
THE REFERE
                                                                                                                                                                                                                                                                                                                                 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Pontzer, Carol H
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILE REFERENCE: interferon tau
CURRENT APPLICATION NUMBER: US/09/599,413
CURRENT FILING DATE: 2000-06-22
PRIOR APPLICATION NUMBER: 60/140,411
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 9
                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ..
0
    99.0%; Score 898; DB 4; Length 172; 98.8%; Pred. No. 5.4e-99; ive 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 98.8%; Score 896; DB 4; Length 172; Best Local Similarity 98.8%; Pred. No. 9.4e-99; Matches 170; Conservative 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-599-413-18
; Sequence 18, Application US/09599413
; Patent No. 6833256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 9, Application US/09599413
Patent No. 6833256
Query Match
Best Local Similarity 98.8*
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: ovine
US-09-599-413-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
ORGANISM: ovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Pat
SEQ ID NO 18
LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 11
US-09-599-413-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-599-413-9
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                            ò
```

```
RESULT 13
US-09-599-413-20
is Sequence 20, Application US/09599413
is Patent No. 6833256
is GENERAL INFORMATION:
is PAPLICANT: Pontzer, Carol H
is TITLE OF INVENTION: Interferon tau
is CURRENT FILING DATE: 2000-66-22
is CURRENT FILING DATE: 2000-66-22
is PRIOR APPLICATION NUMBER: 60/140,411
PRIOR FILING DATE: 1999-06-22
is NUMBER OF SEQ ID NOS: 20
is SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                              61 LQQSFNLFYTBHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOQQLDHLDTCRGQGMGEEDSELGNMDPIVTV 120
                                                                                                      9
                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                               1 CYLSOKLMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQRPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKIMLDARENLKLIDQMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CYLSRKIMIDARENLKLIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Pontzer, Carol H
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILE REFERENCE: interferon tau
CURRENT APPLICATION NUMBER: 108/09/599,413
CURRENT FILING DATE: 2000-06-22
PRIOR PILING DATE: 60/140,411
PRIOR FILING DATE: 199-06-22
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin Ver. 2.1
                                                                                                      1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                      Gaps
                                                                                                                                                                                                                                                                                          121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98.8%; Score 896; DB 4; Length 172; 98.8%; Pred. No. 9.4e-99;
       Length 172;
                                                    1; Indels
  Score 896; DB 4;
Pred. No. 9.4e-99;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-599-413-4
; Sequence 4, Application US/09599413
; Patent No. 6833256
; GENERAL INFORMATION:
    98.8%;
Query Match
Best Local Similarity 98.8%
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 98.88
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: ovine US-09-599-413-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: ovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 4
LENGTH: 172
```

US-09-599-413-4

```
RESULT 15

US-09-599-413-5

US-09-599-413-5

Sequence 5, Application US/09599413

FREED NO. 6633256

GENERAL INFORMATION:

APPLICANT: Pontzer, Carol H

TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them

FILE REFERENCE: interferon tau

CURRENT APPLICATION NUMBER: US/09/599,413

CURRENT PILING DATE: 1999-06-22

FRIOR PILING DATE: 1999-06-22

NUMBER OF SEQ ID NOS: 20

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 5

LENGTH: 172

TYPE: PRT

TYPE: PRT

CURRENT HITZ

SEQ 150 05-599-413-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOOLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                           61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGEEDSELGNMDPIVTV 120
                                                                                                                     1 CYLSRKLMLDARRNLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQRPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CYLSRXLMLDARENI.MLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQXDQAFPVLYEM 60
                                                                                          1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                 Gaps
                                                                                                                                                                                                                                                                                                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                 ö
Query Match

98.7%; Score 895; DB 4; Length 172;
Best Local Similarity 98.8%; Pred. No. 1.2e-98;
Matches 170; Conservative 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 98.6%; Score 894; DB 4; Length 172; Best Local Similarity 98.8%; Pred. No. 1.6e-98; Matches 170; Conservative 0; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search completed: October 28, 2005, 15:01:47 Job time: 25.5 secs
                                                                                                                                    g
                                                                                                                                                                                   ò
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
```

THIS PAGE BLANK (USPTO)

Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 3, Appli Sequence 12, Appli Sequence 14, Appli Sequence 54, Appli Sequence 54, Appli Sequence 51, Appli

7 US-10-825-457-2 8 US-10-824-710-2 8 US-10-824-710-2 10 US-11-078-608-2 10 US-11-078-608-2 10 US-10-1040-706-2 10 US-10-1040-706-2 10 US-10-1040-706-2 10 US-10-1040-706-3 10 US-10-825-457-3 10 US-10-826-457-3 10 US-10-91-653-3 10 US-10-137-816-11 10 US-10-137-816-11

Sequence 58, Appl Sequence 4, Appl Sequence 44, Appl Sequence 44, Appl Sequence 4, Appli Sequence 4, Appli Sequence 4, Appli

Sequence 4, Ag Sequence 4, Ag Sequence 44, A

ALIGNMENTS

```
Sequence 2, Application US/09746919
Patent No. US20020013452A1
GENERAL INFORMATION:
APPLICANT: Johnson, Howard M.
APPLICANT: Pontzer, Carol H.
TITLE OF INVENTION: Interferon Tau Compositions and TITLE OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/045,467
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/438,753
PLICATION DATE: 10-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/139,891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/746,919
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CA
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Pal
STATE: CA
COUNTRY:
                                                                                                                                                                                                                                                                           8857.5
8857.5
7866
7866
723
723
649
649
612
612
612
612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-746-919-2
Sequence 2, Appli
                                                                                                                          (without alignments)
636.313 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2,
Sequence 3,
Sequence 2,
Sequence 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2,
Sequence 2,
Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2,
Sequence 2,
Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2,
                                                                                                                                                                                                         1 CYLSRKLMLDARENLKLLDR.....TVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Published Applications Aai.

(gnz 6/ptodata/1/pubpaa/USO7 PUBCOMB.ppp:*

(gnz 6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*

(gnz 6/ptodata/1/pubpaa/USO6_PUBCOMB.pep:*

(gnz 6/ptodata/1/pubpaa/USO6_PUBCOMB.pep:*

(gnz 6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*

(gnz 6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*

(gnz 6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*

(gnz 6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*
                                                                                                           October 28, 2005, 14:52:27 ; Search time 113 Seconds
             GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-910-406C-2
US-10-029-890-2
US-10-346-269-3
US-10-684-247-2
US-10-683-214-1
US-10-719-47-2
US-10-884-741-2
US-10-885-368-2
US-10-885-368-2
US-10-885-368-2
                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                           1865214 segs, 418043040 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-746-919-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Published Applications AA:*
                                                                            OM protein - protein search, using sw model
                                                                                                                                                                                                                                         BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB
                                                                                                                                                                        US-10-719-472-2
907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                           Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9907
9907
9907
9907
9907
                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                           Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2643978911
```

9

9

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRQQWGEEDSELGNMDPIVTV 120
CYLSRKLMLDARENLKLLDRMNRLSPHSCLODRKDFGLPOEMVEGDOLOKDOAFPVLYEM
                          1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                     121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                  INDIVIDUAL ISOLATE: amino acid sequence of a mature Ovifntau protein SEQUENCE DESCRIPTION: SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Johnson, Howard M.
TITLE OF INVENTION: Orally-Administered Interferon-Tau
Compositions and Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/029,890
FILING DATE: 21-Dec-2001
CLASSIFICATION: <UNKNOWN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 100.0%; Score 907; DB 14; Best Local Similarity 100.0%; Pred. No. 9.4e-89; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/616,904
FILING DATE: 15-MAR-1996
ATTORNEY AGENT INFORMATION:
NAME: Sholtz, Charles K.
REGISTRATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 5600-0003
TELECOMUNICATION:
TELEPHONE: 415-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                             Sequence 2, Application US/10029890
Publication No. US20030012766A1
GENERAL INFORMATION:
APPLICANT: Soos, Jeanne M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 172 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 415-324-0960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 94306
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                                                                                                                                                        US-10-029-890-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-029-890-2
                                          g
                                                                                                ઠે
                                                                                                                                          ద
                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CENERAL INFORMATION:

APPLICANT: Sokawa, Yoshiro

APPLICANT: Sokawa, Yoshiro

APPLICANT: Liu, Chih-Ping

TITLE OF INVENTION: Composition for Treatment of and Method

TITLE OF INVENTION: Of Monitoring Hepatitis C Virus Using Interferon-tau

FILE REFERENCE: 5600-0004.30

CURRENT APPLICATION NUMBER: US/09/910,406C

CURRENT APPLICATION NUMBER: US 93/910,406C

CURRENT FILING DATE: 2002-07-02

PRIOR PILING DATE: 2000-10-17

PRIOR PILING DATE: 2000-10-17

PRIOR PILING DATE: 2000-10-19

FRIOR FILING DATE: 2000-10-19

NUMBER OF SEQ ID NOS: 4

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSRKIMLDARENLKILIDRAMRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 907; DB 9; Length 172; 100.0%; Pred. No. 9.4e-89; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 100.0%; Score 907; DB 10; Best Local Similarity 100.0%; Pred. No. 9.4e-89; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                     NAME: Dehlinger, Peter J.
REGISTRATION NUMBER: 28,066
REFERENCE/DOCKET NUMBER: 5600-0001.36
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-324-0880
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/318,050
RPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-OCT-1992
ATTORNEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/09910406C Publication No. US20030049277A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  172 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 100.
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: protein ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INDIVIDUAL ISOLATE: INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Ovis Aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-910-406C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-910-406C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-746-919-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
```

ò

9 9

Gaps

.. 0

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                   61 LÓGSFNLFYTEHSSAAWDITLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKLMIDARENIKULDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LOOSFNLFYTEHSSAAMDTTLLEQLCTGLQOQLDHLDTCRQQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INDIVIDUAL ISOLATE: amino acid sequence of a mature OvIFNtau protein SEQUENCE DESCRIPTION: SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Johnson, Howard M.
TITLE OF INVENTION: Orally-Administered Interferon-Tau
Compositions and Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
CERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 907; DB 15; Best Local Similarity 100.0%; Pred. No. 9.4e-89; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/694,247
FILING DATE: 27-0ct-2003
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/616,904
PILING DATE: 15-MAR-1996
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Sholtz, Charles K.
REGISTRATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 5600-0003
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2, Application US/10694247
Publication No. US20040086534A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 172 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FELEPHONE: 415-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Soos, Jeanne M. Schiffenbauer,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ELEFAX: 415-324-0960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94306
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                          US-10-694-247-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-694-247-2
                                                               ò
                                                                                                                            g
                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CYLSRKIMIDARENIKULDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CYLSRKIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                 121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KKYFQGIYDYLQEKGYSDCAWEIVRVEWMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 172;
                                                                                                                                                                                                                                   Sequence 2, Application US/10346269; Publication No. US20030219405A1
GENERAL INFORMATION:
APPLICANT: SOKawa, Yoshihiro
APPLICANT: Liu, Chih-Ping
FILE OF INVENTION O'CAI Administration of Interferon-tau
FILE REFERENCE: 55600.8009.1030
CURRENT APPLICATION NUMBER: US/10/346,269
PRIOR APPLICATION NUMBER: US 60/349,658
PRIOR FILING DATE: 2002-01-16
NUMBER OF SEQ ID NOS: 3
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO : SEQ ID N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/10346269; Sequence 3, Application US/10346269; Publication No. US20030219405A1
GENERAL INPORMATION:
APPLICANT: Sokawa, Yoshiniro
APPLICANT: Liu, Chih-Ping
TITLE OF INVENTION: Oral Administration of Interferon-tau; FILE REFERENCE: 55600.8009.0300
CURRENT FILING DATE: 2003-01-16
PRIOR PILING DATE: 2003-01-16
PRIOR PILING DATE: 2002-01-16
NUMBER OF SEQ ID NOS: 3
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 3
LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; OTHER INFORMATION: amino acid encoded by SEQ ID NO:1
US-10-346-269-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 100.0%; Score 907; DB 15; Best Local Similarity 100.0%; Pred. No. 9.4e-89; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 907; DB 15; 100.0%; Pred. No. 9.4e-89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
CORGANISM: Ovis aries
US-10-346-269-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
US-10-346-269-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                 ઠે
                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
```

120

Gaps

.; 0

```
PatentIn version 3.1
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-825-068-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-825-068-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-884-741-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE
                                                                                                          셤
                                                                                                                                                                              8
                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CYLSRKI,MI.DARENLKI,LDRMNRI,SPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                         APPLICANT Manning, Mark C.
APPLICANT: Mayar, Rajiv
TITLE OF INVENTION: Oral formulations for proteins and polypeptides
FILE REPERENCE: 55600-8011.US00
CURRENT APPLICATION NUMBER: US/10/683,214
CURRENT APPLICATION NUMBER: US/10-07
PRIOR PELING DATE: 2002-10-07
NUMBER OF SEQ ID NOS: 18
SOFTWARE: Patentin version 3.1
121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KKYFOGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USE SEQUENCE OF APPLICATION US/10719472

SEQUENCE 1. APPLICATION US/10719472

FUBLICAUT: SOKAWA, VOSHINITO

APPLICAUT: Liu, Chih-Ping

TITLE OF INVENTION: Method of treatment using interferon-tau

FILE REFERENCE: 55600-8013.US00

CURRENT APPLICATION NUMBER: US/10/698,927

PRIOR APPLICATION NUMBER: US/10/698,927

PRIOR PILING DATE: 2003-11-21

PRIOR PILING DATE: 2003-10-31

PRIOR PILING DATE: 2003-07-19

PRIOR PELING DATE: 2000-07-19

PRIOR PELING DATE: 2000-07-19

PRIOR PELING DATE: 2000-07-19

PRIOR FILING DATE: 2003-01-16

PRIOR FILING DATE: 2003-01-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 907; DB 16; Length 172; llarity 100.0%; Pred. No. 9.4e-89; Conservative 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 907; DB 16; Length 172; Pred. No. 9.4e-89;
                                                                                                                                                                           Sequence 1, Application US/10683214
Publication No. US20040126360A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
les 172; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-683-214-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                    61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQWGGEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 LÖQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDPIVTV 120
                                                           9
                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSRKIMIDARENIKILIDRWNRISPHSCLQDRKDFGLDQEMVEGDQLQKDQAFPVIYEM 60
                                                                                                         1 CYLSRKIMLDARENIKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/10884741
Publication No. US200500844781
GENERAL INFORMATION:
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
TILE OF INVENTION: Method of Treatment Using Interferon-TAU
FILE REFERENCE: 55600-8014.US00
CURRENT PILING DATE: 2004-07-02
PRIOR APPLICATION NUMBER: US/10/884,710
PRIOR PILING DATE: 2004-07-02
PRIOR FILING DATE: 2004-07-02
PRIOR FILING DATE: 2004-07-03
PRIOR FILING DATE: 2004-03-10
PRIOR FILING DATE: 2004-03-10
PRIOR FILING DATE: 2004-03-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/10825068
; Publication No. US20040247565A1
; GeneRAL INPORMATION:
APPLICANT: Liu, Chih-Ping
; TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
; TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
; TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
; FILE REFRENCE: 55600-8014.US31,
CURRENT APPLICATION NUMBER: US/10/825,068
; CURRENT FILING DATE: 2004-04-14
; PRIOR FILING DATE: 2004-03-10
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE PATENTION OF SEQ ID NOS: 4
; SOFTWARE PATENTION OF SEQ ID NOS: 4
; SOFTWARE PATENTION OF SEQ ID NOS: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
100.0%; Score 907; DB 16;
Best Local Similarity 100.0%; Pred. No. 9.4e-89;
Matches 172; Conservative 0; Mismatches 0;
0; Mismatches
```

S

```
; TYPE: PRT
; ORGANISM: Ovis aries
US-10-825-457-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Ovis aries US-10-824-710-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 13
US-10-824-710-2
                       LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-991-653-2
                                                                                                                                                                                                                                                                                                                                                                          121
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local 8
                                                                                                                                                                                                         à
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                             LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 LQQSFNLPYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                             1 CYLSRKIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                    1 CYLSRKIMIDARENLKILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQXDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CYLSRKIMIDARENLKILDRANRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKIMIDARENLKILDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Gaps
                                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLOKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KKYPQGIYDYLQEKGYSDCAWEIVRVEWMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2, Application US/10825457;
Publication No. US2005011813841
| GENERAL INFORMATION:
| APPLICANT: Liu_Chih-Ping |
| APPLICANT: Villarete, Lorelie H. |
| TITLE OF INVENTION: Method of Treatment Using Interferon-TAU |
| FILE REPERENCE: 5560-8014.US02 |
| CURRENT APPLICATION NUMBER: US/10/825,457 |
| PRIOR APPLICATION NUMBER: US/10/825,279 |
| PRIOR APPLICATION NUMBER: US 60/552,279 |
| PRIOR APPLICATION NUMBER: US 60/552,279 |
| PRIOR PILING DATE: 2004-03-10 |
                                                            Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Villarete, Lorelie H.
TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
FILE REFERENCE: 55600-6014.0801
CURRENT APPLICATION NUMBER: US/10/825,382
CURRENT FILING DATE: 2004-04-14
PRIOR APPLICATION NUMBER: US 60/552,279
PRIOR PILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                          Query Match 100.0%; Score 907; DB 17; Best Local Similarity 100.0%; Pred. No. 9.4e-89; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 907; DB 17;
100.0%; Pred. No. 9.4e-89;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/10825382
Publication No. US20050118137A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.0
Matches 172; Conservative
; ORGANISM: Ovis aries
US-10-884-741-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 2
LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-825-382-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-825-457-2
                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-825-382-2
                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                 요
                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
```

```
Sequence 2, Application US/10991653
Publication No. US2050147588A1
GENERAL INFORMATION:
APPLICANT: Liu, Chih-Ping
TITLE OF INVENTION: Methods for Treatment of Obesity and for Promotion of Weight Loss
FILE REFERENCE: 55600-8012.US01
CURRENT APPLICATION NUMBER: US/10/991,653
CURRENT FILING DATE: 2004-11-17
PRIOR APPLICATION NUMBER: US 60/523,077
                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                          61 LQOSFNLFYTEHSSAAMDITLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVIV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQWGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                       61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                    1 CYLSRKI.MI.DARENI.KI.IDRWNRI.SPHSCI.QDRKDFGI.PQEMVEGDQLQKDQAFPVI.YEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                 1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                   KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
0
Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/10824710
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Villarete, Lorelle H.
TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
FILE REFERENCE: 55600-8014-US00
CURRENT FILING DATE: 2004-04-14
PRIOR APPLICATION NUMBER: US 60/552,279
PRIOR FILING DATE: 2004-03-10
                                                          Indele
Query Match 100.0%; Score 907; DB 17; Best Local Similarity 100.0%; Pred. No. 9.4e-89; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 907; DB 18;
100.0%; Pred. No. 9.4e-89;
trive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
```

```
US-10-794-495-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                        LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKLMIDARENILKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KKYFQGIYDYLQEKGYSDCAWEIURVEMMRALTUSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                         Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Palo Alto
CITY: Palo Alto
COUNTRY: USA
ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/794,495
FILING DATE: 03-Mar-2004
CLASSIFICATION: «UNKNOWN»
                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pontzer, Carol H.
TITLE OF INVENTION: Interferon Tau Compositions and Methods of Use
                                                                                                                                                                                                                                                      100.0%; Score 907; DB 18; 100.0%; Pred. No. 9.4e-89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
NAME: Dehlinger, Peter J.
REGIST PALITON NUMBER: 28,006
REFERENCE/DOCKET NUMBER: 5600-0001.36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/09/045,467
FILING DATE: 20-Mar-1998
APPLICATION NUMBER: US 08/455,021
FILING DATE: 31-May-1995
APPLICATION NUMBER: US 08/438,753
FILING DATE: 10-May-1995
APPLICATION NUMBER: US 08/139,891
FILING DATE: 19-0CT-1993
APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
APPLICATION NUMBER: US 07/849,741
FILING DATE: 09-MAR-1992
APPLICATION NUMBER: US 07/849,741
FILING DATE: 09-MAR-1992
APPLICATION NUMBER: US 07/869,890
FILING DATE: 00-MAR-1992
                                                                                                                                                                                                                                                                                                 Mismatches
PRIOR FILING DATE: 2003-11-17
PRIOR PEDLICATION NUMBER: US 60/532,851
PRIOR FILING DATE: 2003-12-24
NUMBER OF SEQ ID NOS: 4
SEPTWARE: Patentin version 3.1
LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/10794495 Publication No. US20040146989A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Johnson, Howard M.
                                                                                                                                                                                                                                                                                                   .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES: 44
                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                          TYPE: PRT
CORGANISM: Ovis Aries
US-10-991-653-2
                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 172; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 15
US-10-794-495-2
                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
| TELECOMMUNICATION INPORMATION:
| TELECOMMUNICATION INPORMATION:
| TELEPHONE: 650-324-0980 |
| TELEPAN: 650-324-0960 |
| TOPE: amino acid |
| TYPE: amino acid |
| TYPE: protein |
| TYPE: protein |
| TYPE: protein |
| TOPINIAL SOURCE: |
| TO
```

```
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
```

OM protein - protein search, using sw model

October 28, 2005, 14:48:06; Search time 121 Seconds (without alignments) 549.775 Million cell updates/sec Run on:

US-10-719-472-3 907 1 CYLSERLMLDARENLKLLDR......TVSTTLQKRLTKMGGDLNSP 172

Scoring table:

Title: Perfect score: Sequence:

2105692 segs, 386760381 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Total number of hits satisfying chosen parameters:

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

A_Geneseq_16Dec04:* Database :

geneseq11980s:*
geneseqp1990s:*
geneseqp2001s:*
geneseqp2001s:*
geneseqp2003s:*
geneseqp2003bs:*
geneseqp2003bs:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	Abb07589 Recombina	Adm79178 Mature ov	Ads13614 Recombina	Aar24941 Sequence	Aar24945 Sequence		Aar99397 Ovine tau	Aaw31698 Mature ov	Aaw44110 Mature ov	Abb07588 Ovine int	Adil7857 Mature ov	7	۳	Aar04540 Ovine tro	Aar24944 Seguence	4	Adm79195 Interfero	Aar24942 Sequence	Aab31466 An ovine	Aab31457 Amino aci	Aao21461 Ovine int	Aab31462 An ovine	Aab31467 An ovine	Aab31468 An ovine	Aab31464 An ovine
SOLVENINGS	ΩI	_ EQ	ADM79178	ADS13614	AAR24941	AAR24945	AAR54768	AAR99397	AAW31698	AAW44110	ABB07588	ADI17857	ADM79177	ADS13613	AAR04540	AAR24944	AAR09294	ADM79195	AAR24942	AAB31466	AAB31457	AA021461	AAB31462	AAB31467	AAB31468	AAB31464
	рв	ហ	8	8	~	7	7	~	7	~	ß	7	œ	89	ď	N	7	œ	~	4	4	Ŋ	4	4	4	4
	Query Match Length	172	172	172	195	195	172	172	172	172	172	172	172	172	195	195	172	172	195	172	172	172	172	172	172	172
de	Query Match	100.0	100.0	100.0	99.3	99.3	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.1	99.0	98.9	98.9				98.3				97.9
	Score	907	907	907	106	901	899	899	899	899	899	899	899	899	899	868	897	897	968	894	892	892	890	889	888	888
	Result No.		7	m	4	2	9	7	80	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

The invention provides an oral-delivery composition for use in treating hepatitis C virus (HCV) in a HCV-infected patient. The composition comprises ovine interferon-tau (ovIRN-tau), in a dosage effective to stimulate bloodstream levels of 2'', 5'-0ligoadamylate synthetase (OAS). The ovIRN-tau synthesizes OAS which degrades viral mRNA. A method is also provided for monitoring the treatment of HCV by oral administration of ovIRN-tau, by measuring the blood levels of OAS prior to and after such oral administration, and if necessary, adjusting the dose of IRN-tau observed prior to administration. The composition is useful for treating hepatitis caused by HCV and the method is useful for monitoring treatment

Example 1; Page 33; 33pp; English.

Aab31459 An ovine		Aab31465 An ovine	_	Aab31461 An ovine	Aab31463 An ovine	Aar24943 Sequence	Aab49784 Ovi TP-1		Ads16363 Human int	Aab49783 Bovine TP	Abb08641 Bovine in	Adf94975 Bovine IF	Aar04539 cDNA clon	Aaw70809 A tau mod	Adg42697 Human int	Adj55766 Peptide h	Adm76604 Human NOV	Aaw70808 A tau mod	Aaw56435 Amino aci
AAB31459	AAP91396	AAB31465	AAB31460	AAB31461	AAB31463	AAR24943	AAB49784	ADF94976	ADS16363	AAB49783	ABB08641	ADF94975	AAR04539	AAW70809	ADG42697	ADJ55766	ADM76604	AAW70808	AAW56435
4	Н	4	4	4	4	~	4	۲	œ	4	Ŋ	7	~	7	7	7	æ	N	7
172	195	172	172	172	172	195	196	196	152	195	195	195	195	173	171	171	171	173	173
ω.	œ.	۲.	۲.	'n	~	~	0	۰.	ω.	~	ď	N.	ω.	Н.	٥.	0.	0.	4.	ω.
97	97	97.7	97	97	97	97	95	95	85	80.2	80.2	80	79	77	72	72	72	71.4	69
887	887	988	988	884	882	882	861.5	861.5	778	727	727	727	724	669	653	653	653	648	633
26	27	28	53	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

```
Hepatitis C virus; HCV infection; ovine; interferon-tau; ovIFN-tau; OAS; 2',5'-oligoadenylate synthetase; virucide; hepatotropic; IFN-tau.
                                                                                                                                                                                                                                                                                                              Oral-delivery composition for treating conditions relating to hepatitis caused by hepatitis C virus, comprises ovine interferon-tau which stimulates bloodstream levels of 2',5'-oligoadenylate synthetase.
                                                                              Recombinant ovine interferon-tau protein.
                ABB07589 standard; protein; 172 AA.
                                                                                                                                                                                          19-JUL-2001; 2001WO-US022976.
                                                                                                                                                                                                             19-JUL-2000; 2000US-0219128P.
17-OCT-2000; 2000JP-00317160.
                                                          (first entry)
                                                                                                                                                                                                                                                                                  WPI; 2002-179784/23.
                                                                                                                                                                                                                                           (PEPG-) PEPGEN CORP.
                                                                                                                                                                                                                                                               Sokawa Y, Liu C;
                                                                                                                                                                                                                                                                                            N-PSDB; ABA94937.
                                                                                                                                                 WO200206343-A2.
                                                          08-MAY-2002
                                                                                                                                                                       24-JAN-2002.
                                                                                                                              Ovis aries.
                                      ABB07589;
RESULT 1
          ABB07589
```

N

```
ADS13614
ID ADS:
   ន្តដូច្ចប្រ
                                                                                                                                                           à
                                                                                                                                                                                      ద
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention describes a composition for the oral administration of an interferon (IFN) comprising an IFN and a species that stabilises the IFN in an active form by interaction between the IFN and the species. Also described: (1) preparing a protein for oral administration, comprising formulating the protein man active form by binding interaction between the protein and the species, therefore the formulating results in a composition for oral administration; and (2) selecting a dosage form composition for a protein that achieves protein stabilisation for biological activity upon in vivo administration, comprising selecting a protein for formulation, preparing solutions of the selected protein or polypeptide in different buffers at different pH values, and measuring the effect of the buffer on the composition of the protein's terriary structure. The composition and methods are useful for preparing oral dosage forms for administration of
                                                                                                              ô
                                                                                                                                                                                                       LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                               LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNWDPIVIV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           comprises an
                                                                                                                                                                       9
                                                                                                                                           9
                                                                                                                                         1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              oral administration; interferon; IFN; ovine; mature interferon tau;
                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
   ovIFN-tau. The present sequence
                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (IFN) co
form by
                                                                                                                                                                                                                                                                     KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                Length 172;
                                                                           100.0%; Score 907; DB 5; Length 1
100.0%; Pred. No. 6.6e-92;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mature ovine interferon tau variant protein SEQ ID NO:2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A composition for oral administration of an interferon IFN and a species that stabilizes the IFN in an active interaction between the interferon and the species.
               represents a recombinant ovine interferon-tau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example; SEQ ID NO 2; 52pp; English
                                                                                                                                                                                                                                                                                                                                                                                  ADM79178 standard; protein; 172 AA
 oral administration of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-OCT-2003; 2003WO-US031999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002US-0417292P.
                                                                                                           Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nayar R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2004-340799/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (PEPG-) PEPGEN CORP.
                                                                                             Similarity
                                              Seguence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO2004032863-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Manning MC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aries
of HCV by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                ADM79178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  variant.
                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ovis
                                                                                                                                                                                                                                                                                                                                                    RESULT 2
ADM79178
SXXS
                                                                                                                                                                                                                                                                                                                                                                                                   윱
                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                     ò
```

```
ô
                                                                                                                                                                                                                                120
proteins and polypeptides. The present sequence represents a mature ovine interferon tau variant amino acid sequence where positions 5 and 6 have been modified, which is used in an example from the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     muscular; antiinflammatory; antirheumatic; antiarthritic; antiasthmatic; dermatological; vaccine; interferon tau; 2',5'-oligoademylate synthetase; OAS; autoimmune condition; cancer; viral infection; multiple sclerosis; hepatitis C infection; diabetes mellitus; systemic lupus erythematosus; amyotrophic lateral sclerosis; Crohn's disease; rheumatoid arthritis; asthma; uveitis; psoriasis; hypersensitivity disorder; sheep.
                                                                                                                                                                                                                                                                120
                                                                                                                                                                  9
                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Treating a condition in a subject, e.g. autoimmune condition, cancer or viral infection, comprises orally administering interferon-tau to the intestinal tract to increase the blood 2'5'-oligoadenylate synthetase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     immunosuppressive; cytostatic; virucide; neuroprotective; antidiabetic;
                                                                                                                                                                                                                                LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                 61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                1 CYLSERLMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                               1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                    Gapa
                                                                                                                                                                                                                                                                                                   KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                    KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                    ô
                                                                                                 Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'note= "Wild type Arg substituted by Glu"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "Wild type Lys substituted by Arg"
                                                                                                                                  Indele
                                                                                               100.0%; Score 907; DB 8;
100.0%; Pred. No. 6.6e-92;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tau segid 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                    Æ
                                                                                                                                                                                                                                                                                                                                                                                                                  standard; protein; 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0219128P.
2001US-00910406.
2002US-0349658P.
2003US-00346269.
2003US-00698927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Recombinant sheep interferon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-NOV-2003; 2003US-00719472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                   Best Local Similarity 100. Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-698654/68.
N-PSDB; ADS13615.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOKAWA Y.
LIU C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Liu C;
                                                                  Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US2004191217-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-JAN-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-JAN-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-OCT-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-SEP-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ovis aries.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Υ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADS13614;
                                                                                                 Query Match
                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                    ADS13614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SOKA/)
(LIUC/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sokawa
```

```
Degryse E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1992-217070/26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ammotragus lervia
                                                                                                                                                            Sequence 195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-NOV-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-NOV-1990;
29-NOV-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9209691-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-MAR-2003
03-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-JUN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Martal J,
Chaouat G;
                                                                                                                                                                                                                                                                                                                                                                                                                             AAR24945;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                              RESULT 5
AAR24945
  d
                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                 subject responsive to interferon tau therapy comprises orally administering interferon tau therapy comprises orally administering interferon-tau to the intestinal tract of the subject to produce an intial measurable increase in the subject's blood 2',5'-
oligoademylate synthetaes (OAS) level relative to the blood OAS level in the subject in the absence of interferon-tau administration. The method is useful for treating an autoimmune condition, cancer, or a viral infection. The method is particularly useful for treating multiple sclerosis or hepatitis C infection, diabetes mellitus, systemic lupus erythematosus, amyotrophic lateral sclerosis, Crohn's disease, rheumatoid arthritis, asthma, uveitis, psoriasis, and hypersensitivity disorders. This is the amino acid sequence of recombinant ovine interferon-tau in which the residues at positions 5 and 6 have been altered to Glu and Arg relative to the wild type Arg and Lys.
                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                      1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                   61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLOQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                        61 LOGSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                      1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Reinand P;
                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Antiviral; antiinflammatory; antitumour; immunomodulator; immunogen;
                                            The invention describes a method of treating a condition in a human
                                                                                                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                        Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Charpigny G,
                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                       Query Match 100.0%; Score 907; DB 8; Best Local Similarity 100.0%; Pred. No. 6.6e-92; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaye P, Charlier M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (INRG ) INRA INST NAT RECH AGRONOMIQUE.
                     Claim 2; SEQ ID NO 3; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             trophoblastin; antiluteolytic agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAR24941 standard; protein; 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence of ovine trophoblastin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .23
/label= signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91WO-FR000953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90FR-00014945.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Degryse E,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1992-217070/26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ammotragus lervia.
                                                                                                                                                                                                                  Seguence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29-NOV-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-NOV-1990;
29-NOV-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9209691-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     03-JAN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-JUN-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Martal J,
Chaouat G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAR24941;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Key
Peptide
 level.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAR24941
                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
g
                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                   g
```

```
ö
                                                                                                                                                                                                               The DNA sequence encoding the precursor of ovine trophoblastin was disclosed in PCT WO 89/08706 (see AAR24941). AAR24942-R24945 are isoforms of trophoblastin. They have anti-luteolytic activity and are used to improve survival of transplanted embryos; as a reagent for detecting viability of embryos at an early stage of its development; and to improve the fertility of livestock. (Updated on 25-MAR-2003 to correct PN field.)
New type I interferon variants with added N-terminal di:peptide - include expression cassettes providing high yield in yeast, esp. trophoblast derivs. with e.g. anti-luteolytic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84 LQQSFNLFYTEHSSAAMDTTLLDQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New type I interferon variants with added N-terminal di:peptide - include expression cassettes providing high yield in yeast, esp. trophoblast derivs. with e.g. anti-luteolytic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 CYLSQRLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CYLSERLMIDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Antiviral; antiinflammatory; antitumour; immunomodulator; immunogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          144 KKYFQGIYDYLQEKGYSDCAWEIVRVEWMRALTVSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ο̈
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
99.3%; Score 901; DB 2; Length 19
Best Local Similarity 98.8%; Pred. No. 3.6e-91;
Matches 170; Conservative 2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Charpigny
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Charlier M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence of ovine trophoblastin variant Xd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (INRG ) INRA INST NAT RECH AGRONOMIQUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   trophoblastin; antiluteolytic agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR24945 standard; protein; 195 AA
                                                                                                                                                  Disclosure, Fig 1, 53pp, French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaye P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .23
/label= signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                90FR-00014945.
90FR-00014946.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91WO-FR000953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (revised)
(first entry)
```

4

ö

Gaps

ö

Indels

60 9 120

a ò ò

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tau interferon-contg. medicament - useful to treat auto:immune diseases, proliferative disorders, viral diseases or to enhance fertility in a
                                                                                                                                                 61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                          1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                             121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ovine; bovine; autoimmune disease;
 98.8%; Pred. No. 5.1e-91;
ive 1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    proliferative disorder; viral disease; fertility
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Johnson HM
                                                                                                                                                                                                                                                                                                                        Ŕ
                                                                                                                                                                                                                                                                                                                                                                                                                              Ovine tau interferon (synthetic).
                                                                                                                                                                                                                                                                                                                        standard; protein; 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 5; Page 48; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99.14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96WO-US003472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95US-00406190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schiffenbauer J,
                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 98.8
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYFL ) UNIV FLORIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1996-464609/46.
N-PSDB; AAT41504.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    rau interferon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 female mammal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9628183-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-MAR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-MAR-1995;
                                                                                                                                                                                                                                                                                                                                                                                             29-DEC-1996
                  Matches 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic.
                                                                                                                                                                                                                                                                                                                                                           AAR99397;
                                                                                                                                                                                                                                                                                                                        AAR99397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Soos JM,
                                                                                                                                                                                                                                                                                     RESULT 7
                                                                                                                                                                                                                                                                                                       AAR99397
   Best
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                          ò
                                                                                                                                                          원
                                                                                                                                                                                             ð
                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                  ö
                             The DNA sequence encoding the precursor of ovine trophoblastin was disclosed in PCT WO 89/08706 (see AAR24941). AAR24942-R24945 are isoforms of trophoblastin. They have anti-luteolytic activity and are used to improve aurvival of transplanted embryos, as a reagent for detecting viability of embryos at an early stage of its development; and to improve the fertility of livestock. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                       LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                       84 LÖGSFNLFYTEHSSAAWDTTLLDQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This sheep IFN-tau protein is expressed in yeast, insect cells or E. coliusing expression vector phage lambda-gtil. The protein is useful for inhibitin tumor cell growth, for inhibiting viral replication in cells and enhancing fertility in female mammals. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                        24 CYLSQRLMLDARENLKKLLDRNNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     퐀
                                                                                                                                                                                                                                                                    1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interferon tau compsns - lacking cytotoxic side effects when used antivirals, and anti:cellular proliferation agents.
                                                                                                                                                                                                                                                                                                                                                                                                              KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                  144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sheep; interferon-tau; immunostimulant; antitumor; virucide.
                                                                                                                                                                                               Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ญ
                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Heeke
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Van
                                                                                                                                                                                             99.3%; Score 901; DB 2; 98.8%; Pred. No. 3.6e-91; iive 2; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sheep interferon-tau mature protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pontzer CH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR54768 standard; protein; 172 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 3; Page 90; 126pp; English.
Claim 7; Page 30; 53pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93WO-US010016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92US-00969890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (WOME-) WOMEN'S RES INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Johnson HM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (UYFL ) UNIV FLORIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1994-167468/20.
                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 170; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAQ64824
                                                                                                                                                            Seguence 195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9410313-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-OCT-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ovis aries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bazer FW,
                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAR54768;
```

AAR54768

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LQQSFNLFYTEHSSAAMDTTLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDFIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
Ovine and human tau interferon may be used in medicaments to treat autoimmune disorders (e.g. multiple sclerosis or rheumatoid archritis), proliferative disorder (e.g. cancer) or a viral disease (e.g. hepatitis B). It can also be used to enhance fertility in female mammals. The medicament is given orally or by injection. Ovine and human tau interferon sequences are given in AAT41504 to AAT41506
                                                                                                                                                                                                                                                                                                                                                                                                         1 CYLSERIMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                 Length 172;
                                                                                                                                                                                                                                                                                 Score 899; DB 2; Length 17
Pred. No. 5.1e-91;
1; Mismatches 1; Indels
```

Length 172;

DB 2;

99.1%; Score 899;

Query Match

S

```
This is a mature ovine interferon-tau (OVIFNtau) protein. The ovine and the human interferon-tau (IFN tau) can be used in the treatment of mammalian diseases responsive to IFN tau. The new feature in the creatment is that IFN tau is administered orally. The method is used to treat immune, particularly autoimmune disease, specifically multiple sclerosis (a preferred application, reducing both severity and frequency of relapses), type I diabetes mallitus, lugus erythematosus, amyotrophic lateral sclerosis, Crohn's disease, rheumatoid arthritis, stomatitis, asthma, allergies and psoriasis, particularly in humans or dogs. IFN tau is also useful for treating cancer (e.g. hairy cell leukaemia, Kaposi's sarcoma and multiple myeloma), cell proliferation and viral diseases (hepatitis, human immunodeficiency virus etc., including prevention of maternal transmission). It is also used for increasing fertility in femmed mammals (increasing life time of the corpus lutueum). Oral administration is as effective as injection but is more convenient and generates a lower level of anti-IFN tau antibodies. Use of IFN tau avoids the toxicity associated with use of IFN alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                         Interferon-tau, ovine, human, auto immune disease, treatment, toxicity, IFN tau, multiple sclerosis, diabetes mellitus, asthma, allergy, cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CYLSRKLMLDARENLKLLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQWGGEDSELGNMDP1VTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Oral administration of interferon-tau for treatment of auto-immune disease - avoids toxicity of interferon alpha and generates fewer specific antibodies than injection.
121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 899; DB 2; Length 17
Pred. No. 5.1e-91;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                      Mature ovine interferon-tau (OvIFNtau) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Johnson HM;
                                                                                                                                 AAW31698 standard; protein; 172 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 5; Page 31; 48pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97WO-US003794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96US-00616904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 98.8%;
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Schiffenbauer J,
                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (UYFL ) UNIV FLORIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1997-470642/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-PSDB; AAV02288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 172 AA;
                                                                                                                                                                                                                                                                                         Interferon-tau;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15-MAR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-MAR-1997;
                                                                                                                                                                                                                                                                                                                                                                                           WO9733607-A1
                                                                                                                                                                                                               14-APR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                  18-SEP-1997
                                                                                                                                                                                                                                                                                                                                                    Ovis aries.
                                                                                                                                                                        AAW31698;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Soos JM,
                                                                                                              AAW31698
                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
increase transforms against the present invention describes a novel chimeric nucleic acid which comprises: (i) a 5'-segment encoding the N-terminal amino acid (aa) sequence of an interferon tau (IRNI) polypoptide; and (ii) a 3'-sequence encoding the C-terminal aa sequence of a non-tau type I interferon, with the two segments spliced in a region comprising part of the mature interferon between residues 8 and 37. Hybrid interferon tau type I interferon between residues 8 and 37. Hybrid interferon tau type I interferon between residues 8 and 37. Hybrid interferon to true to the mature interferon between residues 8 and 37. Hybrid interferon to the sensitive tumours) and viral replication (e.g. of thuman interferon to virus, feline leukaemia virus) and to treat autoimmune diseases (e.g. lupus erythematosus, type I diabetes, renumentoid arthritis). Some hybrid interferon fusion polypeptides may block the antiviral/antiproliferative actions of IFNI, so can be used to proke tumnum responses induced by interferon fusion polypeptides can also be used to raise antibodies, used e.g. for analysis of structure/function relationships. The novel chimeric nucleic acid is used to produce recombinant hybrid interferon fusion polypeptides can also be recombinant hybrid interferon fusion polypeptides are less toxic than type I interferons, so can be deministered at higher doses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hybrid nucleic acid encodes fusion of interferon-tau and other interferon - used to inhibit tumour and viral growth, and for treating auto-immune disease, less toxic than native type I interferon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSERLMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CYLSRKIMLDARENLKILDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     present sequence represents mature ovine interferon tau from the
                                                                                                                                                                                                                                                                                                 interferon-tau; inhibit; tumour; viral growth; IFNt;
                       KKYPQGIYDYLQEKGYSDCAWEIURVEMMRALTVSTTLQKRLTKMGGDLNSP 172
KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.1%; Score 899; DB 2;
98.8%; Pred. No. 5.1e-91;
iive 1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pontzer CH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 83; 147pp; English
                                                                                                                                                                                                                                                                                                                    disease; immune response
                                                                                                                                       AAW44110 standard; protein; 172 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97WO-US006114.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Subramaniam PS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96US-0063132B
                                                                                                                                                                                                                                                             Mature ovine interferon tau
                                                                                                                                                                                                                     16-JUN-1998 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (UYFL ) UNIV FLORIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1997-526463/48.
N-PSDB; AAV02178.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 172 AA;
                                                                                                                                                                                                                                                                                                   Hybrid; fusion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-APR-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-APR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                     WO9739127-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                               23-OCT-1997.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Johnson HM,
                                                                                                                                                                                                                                                                                                                                                               Ovis aries.
                                                                                                                                                                                                                                                                                                                         autoimmune
121
                                      121
                                                                                                                                                                             AAW44110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                  AAW44110
ID AAW4
ઠ
                                   유
                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
```

ö

us-10-719-472-3.rag

121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172

ò

ø

```
The invention provides an oral-delivery composition for use in treating hepatitis C virus (HCV) in a HCV-infected patient. The composition comprises ovine interferon-tau (ovirN-tau), in a dosage effective to stimulate bloodstream levels of 2', 5'-ollgoadenylate synthetase (OAS). The ovIFN-tau synthesizes OAS which degrades viral mRNA. A method is also provided for monitoring the treatment of HCV by oral administration of ovIFN-tau, by measuring the blood levels of OAS prior to and after such oral administration, and if necessary, adjusting the dose of IFN-tau until a measurable increase in blood OAS level, relative to the level observed prior to administration. The composition is useful for treating hepatitis caused by HCV and the method is useful for monitoring treatment of HCV by oral administration of ovIFN-tau. The present sequence
Hepatitis C virus; HCV infection; ovine; interferon-tau; ovIFN-tau; OAS; 2',5'-oligoadenylate synthetase; virucide; hepatotropic; IFN-tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oral-delivery composition for treating conditions relating to hepatitis caused by hepatitis C virus, comprises ovine interferon-tau which stimulates bloodstream levels of 2',5'-oligoadenylate synthetase.
                                                                         KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.1%; Score 899; DB 5; Length 172; 98.8%; Pred. No. 5.1e-91; ive 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Page 32-33; 33pp; English.
                                                                                                                                                                            ABB07588 standard; protein; 172 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-JUL-2000; 2000US-0219128P.
17-OCT-2000; 2000JP-00317160.
                                                                                                                                                                                                                                                                                   Ovine interferon-tau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-JUL-2001; 2001WO-US022976.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-179784/23.
N-PSDB; ABA94936.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (PEPG-) PEPGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                          WO200206343-A2
                                                                                                                                                                                                                                                  08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                               24-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                           Ovis aries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sokawa Y,
                                                   121
                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                            ABB07588
                                                                                                                                                                                             ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to a composition for use in treating a condition responsive to interferon-tau, comprising an oral deasge form of inteferon-tau. The composition is administered to a patient in a fasted state to increase the level of 2',5'-oligoademylate synthetase (OAS) in the blood relative to that obtained after administration of interferon-tau to a fed patient. The interferon-tau used in the composition is preferably owine or bovine. The composition is useful in the treatment of autoimmune conditions (e.g., multiple sclerosis, diabetes mellitus, Hashimoto's thyroiditis, rheumatoid arthritis, uveitis, psoriasis, systemic luquus erythematosus, allergies, asthma, eczema, Crohn's disease or ulcerative colitis), viral infections (e.g., HIV infection or hepatitis), disorders associated with callular proliferation (e.g., multiple myeloma, ovarian sequence represents mature ovine interferon-tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               An oral dosage form of interferon-tau administered to a subject in a fasted state to achieve an increased level of 2',5'-oligoadenylate synthetase, useful for treating a condition responsive to interferon-tau, e.g. viral infection.
                                                                                                                                                                                                                                                                                   Interferon-tau; oral dosage form; oral administration; fasted state; 2',5'-oligoadenylate synthetase; OAS; autoimmune condition; multiple sclerosis; diabetes mellitus; Hashimoto's thyroiditis; rheumatoid arthritis; uveitis; psoriasis; systemic lupus erythematosus; allergy; asthma; eczema; Crohn's disease; ulcerative colitis; viral infection; HIV infection; hepatitis; cellular proliferation disorder; multiple myeloma; ovarian cancer; hairy cell leukaemia; inflammatory disease; immunosuppressive; virucide; cytostatic, antiinflammatory; neuroprotective; antidhebmatic; anticheumatic; antiathetic; ophthalmological; antigalengic; antiathematic; antiathematic; antiathematic; antiathematic; antiathematic; antiathematic; antiathematic; antiathematic; antiathematic; ophthalmological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ..
0
KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 899; DB 7; Length 172;
Pred. No. 5.1e-91;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               anti-HIV; hepatotropic; vaccine; ovine; sheep.
                                                                                                                                                                                                                                                  Mature ovine interferon-tau, SEQ ID NO:2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 3; SEQ ID NO 2; 28pp; English.
                                                                                                                       ADI17857 standard; protein; 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-JAN-2002; 2002US-0349658P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 98.8%;
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-JAN-2003; 2003WO-US001596
                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2003-598711/56.
N-PSDB; ADI17856.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (PEPG-) PEPGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sokawa Y, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2003061728-A2.
                                                                                                                                                                                                           22-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ovis aries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Synthetic.
                                                                                                                                                                 ADI17857;
               121
                                                                                                   ADI17857
                                                                                                                                             셤
```

ö

Gaps

.. 0

61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120 LOOSFNLFYTEHSSAAMDTTLLEQLCTGLOOQLDHLDTCRGOVMGEEDSELGNMDPIVTV 120

1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60

Matches 170; Conservative

Similarity

Local

셤 ò 9 9

CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM

-61

쉽 ò g ò g

61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120

KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172 121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172

121

ADS13613 standard; protein; 172 AA

RESULT 13

ADS1361.

```
The present invention describes a composition for the oral administration of an interferon (IFN) comprising an IFN and a species that stabilises the IFN in an active form by interaction between the IFN and the species. Also described: (1) preparing a protein for oral administration, comprising formulating the protein for oral administration, comprising formulating the protein with a species that stabilises the protein in an active form by binding interaction between the protein and the species, therefore the formulating results in a composition for oral administration, comprising selecting a dosage form composition for a protein that achieves protein stabilisation for biological activity upon in vivo administration, comprising selecting a protein for formulation, preparing collutions of the selected protein or polypeptide in different buffers at different ph values, and measuring the effect of the buffer on the protein's terriary structure, where the measuring identifies buffers and measuring oral dosage forms for administration of protein's terriary structure. The composition and methods are useful for proparing oral dosage forms for administration of proteins and polypeptides. The present sequence represents the mature of the interferon tau amino acid sequence, which is used in an example
                                                                                    120
                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       composition for oral administration of an interferon (IFN) comprises an NN and a species that stabilizes the IFN in an active form by
  9
                               1 CYLSRKLMLDARENLKLLDRWNRLSPHSCLQDRKDFGLPQEWVEGDQLQKDQAFPVLYEM 60
                                                                                                                        61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
CYLSERIMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                  LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              oral administration; interferon; IFN; ovine; mature interferon tau.
                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEWMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  interaction between the interferon and the species.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mature ovine interferon tau protein SEQ ID NO:1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example; SEQ ID NO 1; 52pp; English.
                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                      ADM79177 standard; protein; 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-OCT-2003; 2003WO-US031999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-OCT-2002; 2002US-0417292P
                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2004-340799/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (PEPG-) PEPGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO2004032863-A2
                                                                                                                                                                                                                                                                                                                                                                                                           15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Manning MC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ovis aries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22-APR-2004
                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                 ADM79177;
                                                                                                                                                                                                                                                                            유
                                                                                                                    8
                                                                                                                                                                   ઠે
```

```
subject responsive to interferon tau therapy comprises orally administering interferon-tau to the intestinal tract of the subject to produce an initial measurable increase in the subject's blood 2',5'- oligoadenylate syntherase (OAS) level, relative to the blood OAS level in the subject in the absence of interferon-tau administration. The method is useful for treating an autoimmune condition, cancer, or a viral infection. The method is particularly useful for treating multiple sclerosis or hepatitis C infection, diabetes mellitus, systemic lupus arthritis, assubma, uveitis, paorianis, and hypersensitivity disorders. This is the amino acid sequence of ovine interferon-tau.
                                                                                                                           immunosuppressive, cytostatic, virucide, neuroprotective, antidiabetic; muscular, antinflammatory, antirheumatic; antiarthritic, antiasthmatic; dermatological, vaccine; interferon tau; 2',5'-oligoadenylate synthetase; OAS; autoimmune condition; cancer; viral infection; multiple sclerosis; hepatitis C infection; diabetes mellitus; systemic lupus erythematosus; amyotrophic lateral sclerosis; Crohn's disease; rheumatoid arthritis; asthma; uveitis; psoriasis; hypersensitivity disorder; sheep.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Treating a condition in a subject, e.g. autoimmune condition, cancer or viral infection, comprises orally administering interferon-tau to the intestinal tract to increase the blood 2'5'-oligoadenylate synthetase level.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention describes a method of treating a condition in a human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 2; SEQ ID NO 2; 38pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUL-2000; 2000US-0219128P.
19-JUL-2001; 2001US-00910406.
16-JAN-2002; 2002US-0349658P.
16-JAN-2003; 2003US-00346269.
31-OCT-2003; 2003US-00698927.
                                                                                         Sheep interferon tau segid 2.
                                                                                                                                                                                                                                                                                                                                                                                               21-NOV-2003; 2003US-00719472
                                                    16-DEC-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2004-698654/68.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sokawa Y, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOKAWA Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; ADS13612
                                                                                                                                                                                                                                                                                                                     US2004191217-A1.
                                                                                                                                                                                                                                                                                                                                                        30-SEP-2004
                                                                                                                                                                                                                                                                                   Ovis aries.
                 ADS13613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (SOKA/) (LIUC/)
```

ö

Gaps

. 0

Score 899; DB 8; Length 172; Pred. No. 5.1e-91; 1; Mismatches 1; Indels

99.1%; 98.8%;

Query Match Best Local Similarity 98.8 Matches 170; Conservative

from the present invention.

Sequence 172 AA;

ω

```
Degryse E,
                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1992-217070/26.
                                                                                                                                                                                              Ammotragus lervia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 195 AA;
                                                                                                                                                                                                                                                                                              29-NOV-1991;
                                                                                                                 25-MAR-2003
03-JAN-1992
                                                                                                                                                                                                                                                         WO9209691-A1
                                                                                                                                                                                                                                                                                                                  29-NOV-1990;
                                                                                                                                                                                                                                                                                                                            29-NOV-1990;
                                                                                                                                                                                                                                                                           11-JUN-1992
                                                                                                                                                                                                                                                                                                                                                                  Martal J,
Chaouat G;
                                                                                               AAR24944;
                            144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                 셤
          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                          61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                              LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQWGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                         9
                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Recombinant bovine trophoblast protein-1 - used for enhancing fertility or treating viral diseases in mammal, esp. cattle.
                                                                 1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The bTP-1 produced from the gene may be used to promote fertility or treat viral disease in cattle. The gene may also be used to provide transgenic animals with enhanced fertility, or in prophylactic and therapuetic treatment of other mammals. (Updated on 25-MAR-2003 to correct PA field.)
                                                                                                                                    KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99.1%; Score 899; DB 2; Length 195; 98.8%; Pred. No. 6.1e-91; .ive 1; Mismatches 1; Indels
                  Length 172;
                 Score 899; DB 8; Length 17
Pred. No. 5.1e-91;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                              Bovine trophoblast protein-1; bTP-1; fertility; ds.
                                                                                                                                                                                                                                                                           Ovine trophoblast protein-1 (oTP-1)
                                                                                                                                                                                                        AAR04540 standard; protein; 195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page ?; 27pp; English.
                  99.1%;
98.8%;
                                                                                                                                                                                                                                                                                                                                                                                               88US-00262870.
                                                                                                                                                                                                                                                                                                                                                                           89EP-00119642
                                                                                                                                                                                                                                                         (first entry)
                          Best Local Similarity 98.8
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         al Similarity 98.8
170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                     Imakawa K;
                                                                                                                                                                                                                                                (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                (UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1990-141062/19.
N-PSDB; AAQ04289.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 195 AA;
Sequence 172
                                                                                                                                                                                                                                                                                                                                                                           23-OCT-1989;
                                                                                                                                                                                                                                                                                                                                                                                              26-OCT-1988;
                                                                                                                                                                                                                                              25-MAR-2003
17-SEP-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                    Roberts MR,
                                                                                                                                                                                                                                                                                                                                                        09-MAY-1990
                                                                                                                                                                                                                                                                                                                  Sus scrofa
                                                                                                                                                                                                                                                                                                                                     EP367063-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Si
Matches 170;
                                                                                              61
                                                                                                                                                                                                                           AAR04540;
                 Query Match
                                                                                                                                                                                     RESULT 14
                                                                                                                                                                                              AAR04540
g
                                                                                                                                                                                                                  g
                                                                                             ò
                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
The DNA sequence encoding the precursor of ovine trophoblastin was disclosed in PCT WO 89/08706 (see AAR24941). AAR24942-R24945 are isoforms of trophoblastin. They have anti-luteolytic activity and are used to improve survival of transplanted embryos, as a reagent for detecting viability of embryos at an early stage of its development; and to improve the fertility of livestock. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New type I interferon variants with added N-terminal di:peptide - include expression cassettes providing high yield in yeast, esp. trophoblast derivs. with e.g. anti-luteolytic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LQQSFNLFYTEHSSAAMDTTLLDQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDP1VTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CYLSERLMLDARENLKLLDRANRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antitumour; immunomodulator; immunogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Reinaud
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                              KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Charpigny G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.0%; Score 898; DB 2; Length 19
98.3%; Pred. No. 7.8e-91;
iive 3; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Charlier M,
                                                                                                                                                                                                                                                                                                                                                                                                            Sequence of ovine trophoblastin variant Xc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (INRG ) INRA INST NAT RECH AGRONOMIQUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  trophoblastin; antiluteolytic agent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                       Ź
                                                                                                                                                                                                    AAR24944 standard; protein; 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaye P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .23
/label= signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 7; Page 30; 53pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Antiviral; antiinflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91WO-FR000953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90FR-00014945.
                                                                                                                                                                                                                                                                                                                      (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 98.3 Matches 169; Conservative
```

9 83

Search completed: October 28, 2005, 14:56:02 Job time : 122 secs

THIS PAGE BLANK (18770)

```
trophoblast protei
trophoblast protei
trophoblast protei
trophoblast protei
trophoblast protei
trophoblast protei
trophoblast interf
trophoblast protei
interferon alpha-1
                                                                                                                                                                                                                                                                                                                                                                                                                    trophoblast interf
trophoblast protei
                                                                                                                                                                                                                                                                                                                                                                                                                                         protei
                                                    October 28, 2005, 14:51:03; Search time 25 Seconds (without alignments) 661.971 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                               1 CYLSERLMLDARENLKLLDR......TVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                         trophoblast
                                                                                                                                                                                                                                                                                                                                                                                                   Description
GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                              283416 segs, 96216763 residues
                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                    OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A40068
B39505
A53746
A61403
I47070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A61578
A61455
I47067
I47097
I47098
A39505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S23711
IVHO22
S23712
B61578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S23710
I51970
                                                                                                                                  BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         156314
[VHO21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S23751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VHUII
                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                               *
Query
Match Length DB
                                                                                          US-10-719-472-3
907
        Copyright
                                                                                                                                                                                                                                                                      PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                               Sequence:
                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                         Database
                                                       Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š.
```

interferon alpha-5	interferon alpha-1	interferon alpha-1	interferon alpha-G	interferon alpha -	interferon alpha-I	interferon alpha-5	interferon-omega20	interferon alpha-M	interferon-omega44	interferon-omega45	interferon type I	interferon alpha 2	interferon-alpha-F	interferon alpha-F	interferon alpha-I
IVHUA7	IVHUA9	IVHUA1	D25843	I46398	IVHU4B	IVHUAS	146975	152347	I46972	146974	S70011	156313	I84464	E25843	IVHUF
٦	-	Н	~	7	ч	٦	7	7	7	~	~	~	~	7	-
189	189	189	167	195	189	189	195	189	195	195	195	181	189	167	189
48.6	48.4	47.7	47.6	47.5	47.4	47.4	47.1	47.0	47.0	46.7	46.6	46.5	46.5	46.3	46.3
441	439	433	432	431	430	430	427	426	426	424	423	422	422	420	420
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

RESULT 1 SUGOLA4 LEODRODISET interferon alpha precursor - sheep LEODRODISET interferon alpha precursor - sheep LEODRODISET interferon alpha precursor - sheep LEODRODISET STATE THE TIBLE SERVING NOTE STATE STA	RESULT 1 JS0204 trophoblast interferon alpha precursor - sheep Lrophoblast interferon alpha precursor - sheep N;Alternate names: antiluteolygin; trophoblast antiluteolytic protein; trophoblastic prot C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep) C;Date: 31-Mar-1990 #sequence revision 31-Mar-1990 #text_change 09-Jul-2004 C;Accession: S03799; B61403; JS0204; A60947; A53867; S06221; S00306; A60857; A60936 R;Stewart. H.J.; Flint, A.P.F.; Lamming, G.E.; McCann, S.H.E.; Parkinson, T.J. A;Reference number: S03799 A;Molecule type: Data Library, June 1988 A;Molecule type: Data Library, June 1988 A;Molecule type: Data Library, June 1988
--	--

N

```
A;Residues: 1-195 <NEP>
A;Cross-references: UNIPROT:Q08070; GB:M88773; NID:g4416522; PIDN:AAA31503.1; PID:g16582)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: UNIPROT:Q08072; GB:M88772; NID:g165826; PIDN:AAA31506.1; PID:g165827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
C;Accession: 147069
R;Nephew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.
Biol. Reprod. 48, 768-778, 1993
A;Title: Differential expression of distinct mRNAs for ovine trophoblast protein-1 and A;Reference number: 146397; MUID:93250155; PMID:8485241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rivephew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.
Biol. Reprod. 48, 768-778, 1993
A;Title: Differential expression of distinct mRNAs for ovine trophoblast protein-1 and A;Reference number: 146397; MUID:93250155; PMID:8485241
A;Accession: 147066
A;Accession: 147066
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
                                                                                                                                                                                        84 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEKDSELGKMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          143
                                                                    83
            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
                                                24 CYLSRRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYLSQRLMLDARENLKLLEPWNRLSPHSCLQDRKDFGLPQEWVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84 LOOTENLEHTEHSSAAMDTTLLEQLCTGLOOQLEDLDTCRGQVMGEEDSELGNMDPIVTV
            CYLSERLMIDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSERLMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.8%; Score 869; DB 2; L
95.3%; Pred. No. 4.3e-72;
Live 5; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96.1%; Score 872; DB 2; 95.9%; Pred. No. 2.3e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-195 <NEP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 95.99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 164; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Accession: 147066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TP-010
                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TP-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C;Genetics
                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 3
                                                                                                                                                                                        g
                                                          ద
                                                                                                                              ò
                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Molecule type: protein
A; Residues: 'S'.25-27,'ET'.30-36,'R',38-44,'E',46-47 <ROB>
A; Note: 29-Arg and 37-Asn were also found
C; Comment: This protein is one of the major secretory proteins synthesized in vitro by d
C; Comment: This protein prevents regression of the corpus luteum.
C; Comment: Southern blotting reported in reference A61403 suggests there are at least fi
                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: protein
A;Residues: 'X', 25-47'X', 49-51,'D',53,'WQXG',59,'XG',62-63 <ST2>
A;Reberts, R.M.; Imakawa, K.; Niwano, Y.; Kazemi, M.; Malathy, P.V.; Hansen, T.R.; Glass J. Interferon Res. 9, 175-187, 1989
A;Title: Interferon production by the preimplantation sheep embryo.
A;Reference number: A60936; MUID:89235312; PMID:2469745
                                                                                                                                                        A, Accession: $00306
Modecule type: protein
A, Readuse: 24-68 <CHG>
R, Stewart, H.J.; McCann, S.H.E.; Barker, P.J.; Lee, K.E.; Lamming, G.E.; Flint, A.P.F.
B, Endocation: 115, R13-815, 1887
A, Title: Interferon sequence homology and receptor binding activity of ovine trophoblast
A, Reference number: A60857; MUID:88140688; PMID:2830359
A;Cross-references: GB:Y00287; NID:g1357; PIDN:CAA68396.1; PID:g1358
R;Charpigny, G.; Reinaud, P.; Huet, J.C.; Guillomot, M.; Charlier, M.; Pernollet, J.C.;
ESB. Lett. 228, 12-16, 1988
A;Title: High homology between a trophoblastic protein (trophoblastin) isolated from ovi A;Reference number: S00306; MUID:98137579; PMID:3254170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A,Cross-references: UNIPROT:Q08071; GB:M88771; NID:g165824; PIDN:AAA31505.1; PID:g165829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #text_change 09-Jul-2004
C;Accession: 147068
R;Nephew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.
Biol. Reprod. 48, 768-778, 1993
A;Title: Differential expression of distinct mRNAs for ovine trophoblast protein-1 and A;Reference number: 146397; MUID:93250155; PMID:948241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          84 LQQSFNLFYTEHSSAAMDTTLLDQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLY5M 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Superfamily: interferon alpha
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-195/Product: trophoblast interferon alpha #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 96.8%; Score 878; DB 2; Length 195; Best Local Similarity 96.5%; Pred. No. 6.5e-73; Matches 166; Conservative 3; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 99.3%; Score 901; DB 2; Length 19
Best Local Similarity 98.8%; Pred. No. 5.2e-75;
Matches 170; Conservative 2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-195 <NEP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: A60857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: A60936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A, Gene: oTP (TP-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       pha-interferons.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C,Genetics:
A:Gene: TP-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Genetics:
```

ò ద

g ò

ò 셤

ô

ř

ö

re

χ.

```
A;Cross-references: UNIPROT:Q08053; GB:M88770; NID:g165822; PIDN:AAA31504.1; PID:g165823
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
C;Accession: 147067
R;Nephew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.
Biol. Reprod. 48, 768-778, 1993
A;Title: Differential expression of distinct mRNAs for ovine trophoblast protein-1 and A;Reference number: 146397; WULD:93250155; PMID:8485241
                                                                                                                                                                                                                                                                                                                trophoblast protein 1 precursor - sheep
NyAlternate names: interferon
Cispecies: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
Cispecies: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
Cipate: 15-Oct-1994 #sequence_revision 15-Oct-1994 #text_change 09-Jul-2004
Cipate: 15-Oct-1994 #sequence_revision 15-Oct-1994 #text_change 09-Jul-2004
RiRoberts, R.M.; Cross, J.C.; Farin, C.E.; Hansen, T.R.; Klemann, S.W.; Imakawa, A. Reports, R.M.; Cross, J.C.; Farin, C.E.; Hansen, T.R.; Klemann, S.W.; Imakawa, A.Title: Interferons at the placental interface.
A.Reference number: A61455; MUID:91012357; PMID:2213717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                       61 LQQSFNVFHTEHSSAAMNTTLLEQLCTGLQQQLDHLDTCKGPVMGEKDSELGKMDPIVTV 120
         LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24 CYLSRKIMLDARENLIRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:X56343; NID:g1155013; PIDN:CAA39783.1; PID:g1155014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                      121 KKYFQGIHDYLQEKGYSDCAWEIVRVEWMRALTSSTTLQKRLTKWGGDLKSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             144 KKYPOGIHDYLOEKGYSDCAWEIVRVENMRALTSSTTLOKKLIKTGGDLNSP 195
                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Cross-references: UNIPROT:029429
R,Klemann, S.W.; Imakawa, K.; Roberts, R.M.
Nucleic Acids Res. 18, 6724, 1990
A,Title: Sequence variability among ovine trophoblast interferon cDNA.
A,Reference number: S12624; MUID:91067497; PMID:1701245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KKYFOGIYDYLOEKGYSDCAWEIVRVEMMRALTVSTTLOKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92.0%; Score 834; DB 2; Length 195; 91.9%; Pred. No. 6.8e-69; arive 7; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Experimental source: clone oTP-1 p6
C; Superfamily: interferon alpha
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-195/Product: trophoblast protein 1 #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary; translated from GB/EMBL/DDBJ A;Molecule type: DNA A;Residues: 1-195 <NEP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 91.9<sup>3</sup>
Matches 158; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-195 <KLE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-195 <ROB>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession: S12624
         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Gene: TP-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 8
                                                         g
                                                                                                                        ઠ
                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and musk ox and distribut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Cross-references: UNIPROT: P28171; GB: M73243; NID: 9164116; PIDN: AAA30907.1; PID: 9164117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                          120
                                                                                                                        84 LQQSFNLFYTEHSSAAMDTTLLDQLCTGLQQQLEDLDTCRGQWMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         143
24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEDQAFPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CYLSRKIAMLDARENIRILIDRANRISPHSCLQDRKDFGLPQEMVEGDQLQXDQAFSVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Crophoblast protein 1 (clone SPW49) - sheep (fragment)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Sacession: A61578
R;Watkins, S.P.; Jeacock, M.K.; Savva, D.; Shepherd, D.A.L.
Int. J. Biochem. 23, 1013-1018, 1991
A;Fitle: Ovine trophoblast protein-one: evidence for possible glycosylation.
A;Reference number: A61578, MUID:92155417; PMID:1786844
                                                                                                                                                                                                                                                                                                                                                                                                                                      Species: Capra aegagrus hircus (domestic goat)
Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84 LQQSFNLFYTEHSSAAMDTTLLDQLCTGLQQQLDHLDTCRGQWGGKDSELGNMDPIVTV
                                                                                       61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 CYLSRRLMLDARENLRLLDRMNRLSPHSCQQDRKDFGLPQEMVEGDQLQKDQASCVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                        144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKTGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          144 KKYFQGIYYYLQEKGYSDCAWETVRVEMMRALTASTTLQKRLTKTGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Molecule type: mRNA
A;Residues: 1-172 <MAT>
(Superfamily: interferon alpha
C;Keywords: glycoprotein; pregnancy maintenance
F;78/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Riceann, D.W.; Roberts, R.M.

Riceann, D.W.; Roberts, R.M.

J. Interferon Res. 12, 1-11, 1992

A;Title: Genes for the trophoblast interferons in sheep, goat, A;Reference number: 146272; MUID:92242937; PMID:1374107

A;Accession: 146272

A;Molecule type: DMB

A;Molecule type: DMB

A;Residues: 1-195 <LEA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 844; DB 2; Length 15.
Pred. No. 8 3e-70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 839; DB 2;
Pred. No. 2e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 93.6%;
Matches 161; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 91.9%;
Matches 158; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A,Gene: CTF-1
C,Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                           trophoblast interferon - goat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Accession: 146272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Accession: A61578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genetics
                                                                                                                                                                                                    ò
                                                                                       ઠે
                                                                                                                                          셤
                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
```

ĸ

Sun Oct 30 11:04:05 2005

g 8

ઠે

```
C;Accession: S22751
R;Stewart, H.J.; McCann, S.H.E.; Flint, A.P.F.
J. Mol. Endocrinol. 4, 275-282, 1990
A;Title: Structure of an interferon-alpha2 gene expressed in the bovine conceptus early in A;Reference number: S23751; MUID:90334707; PMID:2378676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: UNIPROT:P15696, GB:M60908; NID:g163213; PIDN:AAA62711.1; PID:g163214; C;Superfamily: interferon alpha a a pha a sequence #status predicted <SIG> F;1.23/Domain: signal sequence #status predicted <SIG> F;24-195/Product: interferon alpha-II #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R.Hansen, T.R.; Leaman, D.W.; Cross, J.C.; Mathialagan, N.; Bixby, J.A.; Roberts, R.M. J. Biol. Chem. 266, 3060-3067, 1991
A;Title: The genes for the trophoblast interferons and the related interferon-alphall pos A;Reference number: A39505; MUID:91131606; PMID:1704373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: UNIPROT:P15696; EMBL:X65539; NID:g765; PIDN:CAA46506.1; PID:g766
C;Superfamily: interferon alpha
                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                       61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOOLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84 LQQCFNLFYTEHSSAAWNTTLLEQLCTGLQQQLEDLDACLGPVMGEKDSDMGRMGPILITV 143
                                                                                                                                          9
                                                                                                                                                                                                 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               trophoblast interferon type I precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-Feb_1994 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
                                                                                                                                                                            24 CYLSQRIMLDARENLRILDRANNRLSPHSCLQDRKDFGLPQEMVEGDQLQEAQAFCVLYEM
                                                                                                                                                                                                                                                                                     84 LQQSFNLFHTERSSAAMNTTLLEQLCTGLQQQLEDLDTCRGPVMGEKDSELGKMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           trophoblast interferon 4 precursor (clone bTP4) - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 30-Dec-1991 #sequence_revision 30-Dec-1991 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                          CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80.4%; Score 729; DB 2; Length 195; 81.3%; Pred. No. 2.6e-59; ive 14; Mismatches 18; Indels
                           Length 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 727; DB 2; Length 195;
Pred. No. 4e-59;
                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                          121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQK 160
                                                                                                                                                                                                                                                                                                                                                                                                        KKYFQGIHDYLQEKGYSDCAWETVRVEMMRALTSSTTLKK 183
                                                                                    8;
                        Score 749; DB 2;
Pred. No. 3.6e-61;
9; Mismatches 8;
                           82.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80.2%;
81.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 81.3%;
Matches 139; Conservative 1
                        Query Match
Best Local Similarity 89.49
Matches 143; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-195 <HAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Residues: 1-195 <STE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Status: preliminary A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Accession: A39505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Accession: A39505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Accession: S23751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
                                                                                                                                             ò
                                                                                                                                                                                              원
                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cispecies: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
Cispecies: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
Cispecies: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
Cispecies: Ovis ovis orientalis aries, Ovis ammon aries (domestic shange 16-Jul-1999
Ciscossion: 147098
Ricaman, D.W.; Roberts, R.M.
J. Interferon Res 12, 1-11, 192
A;Title: Genes for the trophoblast interferons in sheep, goat, and musk ox and distribut A;Reference number: 146272; MUID:92242937; PMID:1374107
A;Accession: 147098
A;Accession: I47098
A;Accession: January; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Riceman, D.W.; Roberts, R.M.
J. Interferon Res. 12, 1-11, 1992
A; Interferon Res. 12, 1-11, 1992
A; Interferon Res. 12, 1-11, 1992
A; Itle: Genes for the trophoblast interferons in sheep, goat, and musk ox and distribut A; Reference number: 146272; MUID:92242937; PMID:1374107
A; Accession: 147097
A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: 1-195 <LEA>
A;Cross-references: UNIPROT:P28169; GB:M73241; NID:g166025; PIDN:AAA31573.1; PID:g166026
                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                     LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDFIVTV 120
                                                                                                                                                                                                                                                                                                                LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84 LQQSFNLFHTERSSAAWNTTLEQLCTGLQQQLEDLDTCRGPVMGEKDSELGKMDPIVTV 143
                                                                                                                                                                                                    24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLDQEMVEGDQLQBAQAFCVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEAQAFCVLYEM 83
                                                                                                                                                                      1 CYLSERIMIDARENLKILDRAMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                trophoblast protein-1 - sheep
C.Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C.Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:M73242; NID:g166027; PIDN:AAA31574.1; PID:g166028
                                                                                                                                                                                                                                                                                                                                                                                                                                      144 KKYFQGIHFYLKEKEYSDCAWEIVRVENMRALSSSTSLQERLRKWGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                     121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                  ö
                                                         Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 195;
                                                      Score 810; DB 2; Length 19
Pred. No. 1.1e-66;
8; Mismatches 9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 86.2%; Score 782; DB 2; Best Local Similarity 87.2%; Pred. No. 3.8e-64; Matches 150; Conservative 12; Mismatches 10.
                                                   Best Local Similarity 90.1%;
Matches 155; Conservative
C; Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Gene: oTP-1
C;Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-184 < LEA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Accession: 147097
                                                                                                                                                                                                                                                                                  19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Gene: oTP-1
```

a ò 셤 ò ហ

ö

Gaps

9 83

요 ò

ઠે g

```
C;Species: Homo sapiens (man)
C;Date: 07-Oct-1994 #sequence_revision 07-Oct-1994 #text_change 09-Jul-2004
C;Date: 07-Oct-1994 #sequence_revision 07-Oct-1994 #text_change 09-Jul-2004
C;Accession: A53746
R;Whaley, A.E.; Meka, C.S.R.; Harbison, L.A.; Hunt, J.S.; Imakawa, K.
J. Biol. Chem. 269, 10864-10868, 1994
A;Title: Identification and cellular localization of unique interferon mRNA from human play. Reference number: A53746; MUID:94193794; PMID:7511610
A;Reference number: A53746
A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cross-references: UNIPROT: P37290; GB: L25664; NID: 9479010; PIDN: AAA36123.1; PID: 9479011
                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84 LÖGSFNLFHTEHSSAAWDTTLLEPCRTGLHQQLDNLDACLGQVMGEEDSALGRTGPTLAL 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                    24 CYLSEDHMLGARENLRLLARMNRLSPHPCLQDRKDFGLPQEMVEGNQLQKDQAISVLHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 interferon, trophoblast - human
C;Species: Homo sapiens (man)
C;Date: 07-Oct-1994 #sequence_revision 07-Oct-1994 #text_change 09-Jul-2004
                                                                 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 CDLSQNHVLVGRKNLRLLDEMRRLSPHFCLQDRKDFALPQEMVEGGQLQEAQALSVLHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
                                                                                                                                                                                                                                                                                                                                                                   144 KKYFQGIHVYLKEKEYSDCAWEIIRVEMMRALSSSTTLQKRLRKMGGDLNS 194
   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 67.3%; Score 610; DB 2; Length 19
Best Local Similarity 68.6%; Pred. No. 1.9e-48;
Matches 118; Conservative 20; Mismatches 34; Indels
   19; Indels
   13; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search completed: October 28, 2005, 15:00:53 Job time: 26 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: mRNA
A;Realdudes: 1-195 <WHA.
A;Cross-references: UNIPROT:P37;
C;Superfamily: interferon alpha
   139; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
   Matches
                                                                     ò
                                                                                                                        임
                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Erophoblast protein-1 precursor (clone 330) - bovine (5/5pecies: Bos primigenius taurus (cattle) (c/5pecies: Bos primigenius taurus (cattle) (c/5pecies: 30-Dec-1991 #sequence_revision 30-Dec-1991 #text_change 09-Jul-2004 (c/5dccession: B33505 R:Hansen, T.R.; Leaman, D.W.; Cross, J.C.; Mathialagan, N.; Bixby, J.A.; Roberts, R.M. A/Title: The genes for the trophoblast interferons and the related interferon-alphall pc A/Reference number: A39505; MUID:91131606; PMID:1704373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Imakawa, K.; Hansen, T.R.; Malathy, P.V.; Anthony, R.V.; Polites, H.G.; Marotti, K.R.;
Mol. Endocrinol. 3, 127-139, 1989
A;Title: Molecular cloning and characterization of complementary deoxyribonucleic acids
   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ô
                                                                                                                                                                                                                                   84 LQQCFNLFYTEHSSAAMNTTLLEQLCTGLQQQLEDLDACLGPVMGEKDSDMGRMGPILTV 143
                                                                                                                                                                                          61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84 LQQCLNLFYTEHSSAAWNTTLLEQLCTGLQQQLEDLDACLGPVMGEKDSDMGRMGFILTV 143
                                                                     9
                                                                                                       24 CYLSEDHMLGARENLERLIARMNRLSPHPCLQDRKDFGLPQEMVEGNQLQKDQAISVIHEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rophoblast protein-1 precursor (clone bTP509) - bovine
$2pecies: Bos primigenius taurus (cattle)
| bate: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 09-Jul-2004
| Accession: A40068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 CYLSEDHMLGARENLRILARMNRLSPHPCLQDRKDFGLPQEMVEGNQLQKDQAISVLHEM
                                                              1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
   0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             144 KKYFQGIHVYLKEKEYSDCAWEIIRVEMMRALSSSTTLQKRLRKMGGDLNS 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ouery Match 79.8%; Score 724; DB 2; Length 195; Best Local Similarity 81.3%; Pred. No. 7.5e-59; Matches 139; Conservative 13; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-195 <IMA>
A;Residues: 1-195 <IMA>
A;Cross-references: UNIPROT:Q9MYK6; UNIPROT:Q9GLL6; GB:M31556
C;Superfamily: interferon alpha
F;1-23/Domain: signal sequence #status predicted <SIG>F;24-195/Product: trophoblast protein-1 #status predicted <MAT>
   18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Reference number: A40068; MUID:89127268; PMID:2521687
   14; Mismatches
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-195 <HAN>
   139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ron-alpha-II.
Matches
```

임 ò 셤 ò Cross-references: UNIPROT:P15696; GB:M60903; GB:M38189; NID:g2340962; PIDN:AAB67325.1; Superfamily: interferon alpha; 1-23/Domain: signal sequence #status predicted <SIG>; 24-195/Product: trophoblast protein-1 #status predicted <MAT>

79.8%; Score 724; DB 2; Length 195; 81.3%; Pred. No. 7.5e-59;

Query Match Best Local Similarity

ö

Gaps

.; 0

9 83

THE PASS BLANK (18970)

Н

Š

```
[2]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                     NCBI_TaxID=9940;
                                                                                                                                                                                                              Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Embryo;
                                                     463
                                                           443
441
441
439
                                                                                                                                                                                                                                                                                                          levels.";
                                                                                                                      KESULT 1
INT2 SHEEP
                                                                                                                                                                                                                                                                                                                         3
                                                                                                                                           capra hircu
capra hircu
capra hircu
                                                                                                                                                                                                                                                                                                                                                                ovis aries
ovis aries
                                                                                                                                                                                                                                                                                                                        ovis aries
ovis aries
                                                                                                                                                                                                                                                                                                                                     capra hircu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            elap
                                                                                                                                                                                                                                                                                 aries
aries
                                                                                                                                                                                                                                                                                              aries
aries
aries
aries
                                                                                                                                                                                                                                                                                                                                                   capra hircu
capra hircu
                                                                                                                                                                                                                                                                                                                                                                                                         ovibos mosc
                                                                                                                                                                                                                                                                                                                                                                                                                             taurus
taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                       bison bison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      giraffa cam
                                                                                                                                                                                                                                                                                                                                              ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                  ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                taurus
                                                                                                                                                                                                                                                                                                                                                                                                                       taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                          taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                 bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                              taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ovis aries
                                    October 28, 2005, 14:49:06; Search time 115.5 Seconds (without alignments) 762.577 Million cell updates/sec
                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cervus
                                                                              1 CYLSERLMLDARENLKLLDR......TVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                    ovis
                                                                                                                                                                                                                                                                                                                   ovis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   homo
                                                                                                                                                                                                                                                                    Description
                                                                                                                                                                                                                                                                                                                                                                                                               pos
                                                                                                                                                                                                                                                                                                                                                                                                                                    800
                                                                                                                                                                                                                                                                                                                                                                                                                                          800
                                                                                                                                                                                                                                                                                                                                                                                                                                                              pos
                                                                                                                                                                                                                                                                                                          Q28595
Q08071
Q08070
Q08072
                                                                                                                                                                                                                                                                                                                                     P28171
Q29429
Q6uz59
Q6uz50
Q6rfz8
Q080257
Q6uz42
Q6uz42
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9g115
Q95187
                                                                                                                                                                                                                                                                                 956829
                                                                                                                                                                                                                                                                                                                                                                                                               P15696
P56830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           046633
P37290
                                                                                                                                                                                                                                                                                                     028594
                                                                                                                                                                                                                                                                                                                                                                                                         P28172
                                                                                                                                                                                                                                                                                                                                                                                                                             Q8mj 29
                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9myk6
                                                                                                                                                                                                                                                                                                                                                                                                                                          P56831
                                                                                                                                                                                                                                                                                                                                                                                                                                                 09g116
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q6duh3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q7m2y7
                                                                                                                             1612378
5.1.6
Compugen Ltd.
                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                1612378 segs, 512079187 residues
GenCore version (c) 1993 - 2005
                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                      INT1_SHEEP
INT3_SHEEP
INT5_SHEEP
INT5_SHEEP
INT9_SHEEP
INT_GAPHI
INT_GAPHI
                                                                                                                                                                                                                                                                                                                                                               QGRFZ8
INTA SHEEP
QGUZ47
                                                                                                                                                                                                                                                                                                                                                                                                                                   Q9MYK6
INT3 BOVIN
Q9GLL6
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q6DUH3
Q9GLL5
INT GIRCA
INT CEREL
INDI HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                  INTB SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                              INTI BOVIN
INT2 BOVIN
                                                                                                                                                                             Listing first 45 summaries
                         - protein search, using sw model
                                                                                                                                                                                                                                                                                 NT2_SHEEP
                                                                                                                                                                                                                                                                                                                                                                                    Q6UZ43
Q6UZ42
                                                                                           BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                          26UZ50
                                                                                                                                                                                         UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*
                                                                                                                                                               Post-processing: Minimum Match 0% Maximum Match 100%
                                                                                                                                           length: 0
length: 2000000000
                                                               US-10-719-472-3
907
                                                                                                                                                                                                                                                                    Length DB
     Copyright
                                                                                                                                                                                                                                                            Query
                                                                                                                                                                                                                                                                                                    79.7
78.4
77.8
                                                                                                                                        Minimum DB seq
Maximum DB seq
                                                                         score:
                                                                                            Scoring table:
                                                                                                                                                                                                                                                                    Score
                                                                                                                                                                                                                                                                                                          protein
                                                                                                                Searched:
                                                                               Sequence :
                                                                                                                                                                                          Database
                                      Run on:
```

Result o S

```
bos mutus g
sus scrofa
equus cabal
sus scrofa
                               homo sapien
sus scrofa
homo sapien
                                                      sapien
sapien
                                            equus cabal
homo sapien
ovis aries
         taurus
                                                      homod
         pos
            Q68mq8 k
Q29085 r
P05002 e
Q29098 r
P05000 k
                                            P05001
P01569 |
P01570 |
                                   Q29084
Q13168
     028561
                      INO2 HORSE
029098
         BOVIN
                               HUMAN
                                             HORSE
                                                      INAD HUMAN
                                                  HUMAN
                                                           INAG HUMAN
                                   029084
             O6SMO8
                  229085
                                        013168
    228561
                               INOI
11955
11995
11995
11995
11995
11995
11995
11995
588
586
583
531
514.5
500
489.5
474
```

```
Stewart H.J., Flint A.P., Lamming G.B., McCann S.H., Parkinson T.J.; "Antiluteolytic effects of blastcoyst-secreted interferon investigated in vivo in the Sheep."; Teprod. Fertil. Suppl. 37:127-138(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Winkelman G.L., Roberts R.M., Peterson A.J., Alexenko A.P., Ealy A.D.; "Identification of the expressed forms of ovine interferon-tau in the peri-implantation conceptus: sequence relationships and comparative biological activities."; Submitted (UUN-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                       INT2_SHEEP STANDARD; PRT; 195 AA.
P56829; P68316;
01-AUG-1988 (Rel. 08, Created)
30-AMAY-2000 (Rel. 39, Last sequence update)
10-TUL-2004 (Rel. 44, Last annotation update)
10-TUL-2004 (Rel. 44, Last annotat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-89351557; PubMed-2475129; Stewart H.J., McCann S.H., Northrop A.J., Lamming G.E., Flint A.P.; "Sheep antiluteolytic interferon: cDNA sequence and analysis of mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Embryo;
MEDLINE=89326151; PubMed=2753362; DOI=10.1016/0378-1119(89)90082-6;
MEDLINE=89326151; PubMed=2753362; DOI=10.1016/0378-1119(89)90082-6;
Clarlier M., Hue D., Martal J., Gaye P.;
"Cloning and expression of cDNA encoding ovine trophoblastin: its identity with a class-II alpha interferon.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 24-68.
MEDLINE-88137579; PubMed=3254170; DOI=10.1016/0014-5793(88)80574-X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (IFN-TAU2C).
MEDLINE-91067497; PubMed=1701245;
Klemann S.W., Imakawa K., Roberts R.M.;
"Sequence variability among ovine trophoblast interferon cDNA.";
Nucleic Acids Res. 18:6724-6724(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE OF 24-195 FROM N.A. (IFN-TAU2A AND IFN-TAU2B)
ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Mol. Endocrinol. 2:65-70(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=90040431; PubMed=2530342;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. (IFN-TAU2C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. (IFN-TAU2C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (IFN-TAU2C)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gene 77:341-348(1989).
```

~

```
Protein Eng. 7:863-867(1994).
      'EBS Lett. 228:12-16(1988).
                                                      Biochimie 80:755-777(1998).
                                3D-STRUCTURE MODELING.
         FUNCTION
                                         REVIEW
                                        10]
```

```
엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium is receptor of the pulsatile endometrium of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFW-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antitiviral and antiproliferative potency concurrently with particular weak cyclotoxicity, high antiluteolytic activity and immunomodulatory indicatives. In contrast with other IFNS, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropaen Bioinformatics Institute. There are no restrictions on its use by non-profit institutions and so its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.;
"IFN-tau: a novel subtype I IFN1. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy. Polymorrapism: There seems to be three variants of IFN-tau 2: A/PRVZ/P7 (shown here), B/P8V4 and C/P8.

MISCELLANEOUS: IFN-tau genes are intronless. They evolved from IFN-omega in the truninantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                different biological potency and pattern of expression. SIMILARITY: Belongs to the alpha/beta interferon family. IFNalphaII subfamily.
                                                                                                                                                                                                                                                                                                                                              MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144; Spencer T.E., Bazer F.W.; Spencer incerferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
Charpigny G., Reinaud P., Huet J.-C., Guillomot M., Charlier M., Pernollet J.-C., Martal J.; "High homology between a trophoblastic protein (trophoblastin) isolated from ovine embryo and alpha-interferons.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING. MRDLINE=55062134; PubMed=7971949; Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H.; "Predicted structural motif of IPN tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
Senda T., daitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
```

```
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNWDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84 LOOSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRQQWGGBEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROBLEM PROBLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24 CYLSQRLMLDARENLKLLDRWNRLSPHSCLQDRKDFGLPQEWVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Interferon-like sequence of ovine trophoblast protein secreted by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              144 KKYFQGIYDYLQEKGYSDCAWEIVRVEWMRALIVSTTLQKRLIKWGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144; Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Imakawa K., Antony R.V., Kazemi M., Marotti K.R., Polites H.G.,
Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.7%; Score 904; DB 1; Length 195; 99.4%; Pred. No. 1.7e-75; ive 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                   Pfam, PF00143; Interferon; 1.
PRINTS; PR00266; INTERFERONAB.
ProDom, PD000550; Interferon, abd; 1.
PROSITE; PS00252; INTERFERON A B D; 1.
Antiviral; Cytokine; Direct profein sequencing; Hormone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Trophoblast;
MEDLINE=88065855; PubMed=2446135; DOI=10.1038/330377a0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EC4DEE507C269C67 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          By similarity.
By similarity.
E -> D (in IFN-tau2C)
E -> K (in IFN-tau2B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Multigene family; Polymorphism; Pregnancy; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interferon tau-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 195 AA
or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                             InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon abd.
                                                                                                                                           EMBL; X56345; CAA39785.1; -.
EMBL; AF158818; AAD44970.1; -.
EMBL; AF158820; AAD44972.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22192 MW;
                                                         EMBL; X07920; CAA30753.1; -.
                                                                                     EMBL; M26386; AAA31584.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          embryonic trophectoderm.";
Nature 330:377-379(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 171; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                    PIR; S03799; JS0204.
HSSP; P56828; 1B5L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Caprinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARIANT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INT1_SHEEP
```

m

```
TURN
HELIX
TURN
TURN
HELIX
HELIX
TURN
TURN
                                                                                                                                                                                                                                                       HELIX
HELIX
TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INT3 SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 3
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       recognition of pregnancy. Interacts with endometrial interacts probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxyrocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cycloxicity, high antiluteolytic activity and immunomodulatory properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                 Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.;
"IFN-tau: a novel subtype I IFNI. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptua between days 13 and 21 of pregnancy.

MISCELLANEOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the runniantia suborder and have continued to duplicate independently in different lineages of the runniantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.

SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                                                                                                                                                                                                                                   MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: Paracrine hormone primarly responsible for maternal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ProDom; PD000550; Interferon abd; 1.
PROSITE; PS00252; INTERFERON A B D; 1.
3D-structure; Antiviral; Cytokine; Hormone; Multigene family;
                                                                  Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H.; "Predicted structural motif of IFN tau."; Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                            MEDLINE=96318252; PubMed=8746786;
Senda T., Saitch S.-I., Miteui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                   CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
MEDLINE=95062134; PubMed=7971949;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; Y00287; CAA68396.1; -.
PIR; S03799; JS0204.
PDB; IBSL; X-ray; @=24-195.
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
Endocrinology 137:1144-1147(1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00143; Interferon; 1.
PRINTS; PR00266; INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                       potentialities.";
Biochimie 80:755-777(1998).
                                                                                                                                                                            3D-STRUCTURE MODELING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pregnancy; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nducible
                                                                                                                                                                                                                                                                                                  REVIEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     +
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                   84 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                        24 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Winkelman G.L., Roberts R.M., Peterson A.J., Alexenko A.P., Ealy A.D., "Identification of the expressed forms of ovine interferon-tau in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-3 (IFN-tau3) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein).
                                                                                                                                                                                                                                                                                                                                                     1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               peri-implantation conceptus: sequence relationships and comparative biological activities."; Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Spencer T.E., Bazer F.W.;
"Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium." Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto B.V., Krishma N.R., Pontzer C.H.; "Predicted structural motif of IFN tau."; Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                         99.1%; Score 899; DB 1; Length 195; 98.8%; Pred. No. 5e-75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
MEDLINE=95062134; PubMed=7971949;
                                                                                                                                                                                                                                                             22192 MW; A4965AE25DEA5BC9 CRC64;
 By similarity.
Interferon tau-1.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                        1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-MAY-2000 (Rel. 39, Created)
                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
   Ovis aries (Sheep).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                             195 AA;
                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE=Embryo;
   NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Name=IFNT3;
                                                                                                                                                                                                                                                                                                                      Matches 170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INT3 SHEEP
P56832;
SIGNAL
CHAIN
DISULFID
DISULFID
                                                                                                                                                                                                                                              HELIX
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Caprinae;
                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                           Local
```

4

ö

Gaps

. 0

Length 172; 1; Indels 9 9

```
EMBL; AF158817; AAD44969.1; -. EMBL; AF158819; AAD44971.1; -.
                                                                                                                                                     Pfam; PF00143; Interferon; 1.
                                 potentialities.";
Biochimie 80:755-777(1998)
                                                                                                                                                                    1
29 1
87
124 1
130 1
                                                                                                                                                                 Pregnancy.
                                                                                                                                                                      DISULFID
                                                                                                                                                                   DISULFID
                                                                                                                                                                        VARIANT
VARIANT
VARIANT
                                                                                                                                                                               SEQUENCE
                REVIEW
             5
```

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                61 LÓGSFNLFYTEHSSAAWDTTLLEQLCTGLÓGOLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                               1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                             CYLSERIMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                 121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                              Score 896; DB 1;
Pred. No. 8.1e-75;
1; Mismatches 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=91067497; PubMed=1701245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=95062134; PubMed=7971949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last seq
                               98.8%;
98.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein Eng. 7:863-867(1994)
                            Query Match
Best Local Similarity 98.8
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3D-STRUCTURE MODELING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          potentialities.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Caprinae; Ovis.
NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Name=IFNT4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INT4 SHEEP
                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    028594;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INT4_SHEEP
                                                                                                                                 ð
                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                             recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium is receptor expression of the pulsatile endometrium of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclocoxicity, high antiluteolytic activity and immunomodulatory properties. In contrast with other IFNS, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. Developmenthal STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.

POLYMORPHISM: There seems to be two variants of IFN-tau 3: A/P8V1 (shown here) and B/P8V3.
                                                                                                                                                                                                MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFNI. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MISCELLANGOUS: IFF, tau genes are intronless. They evolved from IFF, enegage genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression. SIMILARIER: Belongs to the alpha/beta interferon family. IFF alphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PRO0266; INTERFERONAB.
PRODOM; PRODOSSO; INTERFERONAB.
APROSITE; PS00522; INTERFERONA B D; FALSE NEG.
Antiviral; Cytokine; Hormone; Multigene family; Polymorphism;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   By similarity.
By similarity.
T -> S (in isoform B).
FE -> SQ (in isoform B).
L -> Y (in isoform B).
A; 7BFF1F036545C8E2 CRC64;
                                                                             Roberts R.M.;
[4]
3D-STRUCTURE MODELING.
MEDLINE=96318252; PubMed=8746786;
Anda T., Saitoh S.-I., Mitsui Y., Li J., Rober
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSSP; P56828; 1B5L.
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19866 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
139
87
125
130
```

```
30-MAY-2000 (Rel. 39, Last sequence update)
05-MUL-2004 (Rel. 44, Last annotation update)
Interferon tau-4 precursor (IRN-tau4) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y., "IFN-tau: a novel subtype I IFNI. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biochimie 80:755-777(1998).
-!- FUNCTION: Paracrine hormone primarly responsible for maternal
recognition of pregnancy. Interacts with endometrial receptors,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Klemann S.W., Imakawa K., Roberts R.M.;
"Sequence variability among ovine trophoblast interferon cDNA.";
Nucleic Acids Res. 18:6724-6724(1990)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen "Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147 (1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H.; "Predicted structural motif of IFN tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=96318252; PubMed=8746786;
Senda T., Saltoh S.-I., Mitteul Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING
195 AA
```

ហ

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                 expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the bursh of the pulsatile endometrium. This results in the hormone prostaglandin F2-alpha, hindering the regression of the corpus luttenum (luteolysis) and therefore a return to ovarian prostaglandin synthesis, leads in turn to continued ovarian prospecterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cytotoxicity, high antiluteolytic activity and immunomodulatory properties. In contrast with other IFNs, IFN-tau is not virally
  probably type I interferon receptors, and blocks estrogen receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               84 LQQSFNLFYTEHSSAAWDTTLLDQLCTGLQQQLDHLDTCRDQVMGEKDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24 CYLSORIMLDARENIKLIDRMNRISPHSCLODRKDFGIPQEMVEGDQLQKDQAFPVIYEM
                                                                                                                                                                                                                                                                                                                          TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. ByELDOWENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.

MISCELLANEOUS: IFN-teu genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.

SIMILARITY: Belongs to the alpha/beta interferon family. IFN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00143; Interferon; 1.
PRINTS; PR00266; INTERFERONAB.
PRODOM; PD00550; Interferon_abd; 1.
PROSITE; PS00252; INTERFERON A B D; 1.
Antiviral; Cytokine; Hormone; Multigene family; Pregnancy; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .;
o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 195;
                                                                                                                                                                                                                                                                                                             SUBCELLULAR LOCATION: Secreted into the uterine lumen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97.6%; Score 885; DB 1; Length 19
97.1%; Pred. No. 9.9e-74;
Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / similarity.
408BD4BDBF5AA931 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           By similarity.
Interferon tau-4.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
INT5 SHEEP STANDARD;
AC 028555;
DT 30-MAX-2000 (Rel. 39, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22209 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; X56341; CAA39781.1; -. HSSP; P56828; 185L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              alphaII subfamily
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24 1
52 1
195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                         nducible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                167;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

195 AA

PRT;

```
MEDLINE-99081096; PubMed-9865498; DOI=10.1016/S0300-9084(99)80029-7;
MARTAI J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B.,
Aduillonot M.W., Charlier M.A., Charpigny S.Y.;
Aduillonot W.W., Charlier M.A., Charpigny S.Y.;

RT dujdicus expression, structure-function relationships, a pregnancy ubiquitous expression, structure-function relationships, a pregnancy potentialities.";

RT hormonal embryonic signal and cross-species therapeutic pregnancy potentialities.";

RT hormonal embryonic signal and cross-species therapeutic pregnancy potentialities.";

RT hormone prospection by memory interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptor receptor expression, preventing the estrogen-induced interease in oxytocin receptor expression in the endometrial release of the luteolytic suppression of the pulsatile endometrial release of the luteolytic corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IRN-tau on prosetaglandin FZ-alpha, hindering the secretion by the endometrium of the nutrients required for the growth of the endometrium of the nutrients required for the growth of the endometrium of the nutrients required for the growth of the endometrium of the nutrients required for the growth of the antiproliferative potency concurrently with particular weak cyclocity, high antiluteolytic activity and immunomodulatory individual
30-WAY-2000 (Rel. 39, Last sequence update)
05-UDL-2004 (Rel. 44, Last annotation update)
Innerferon tau-5 precureor (IFN-tau5) (Trophoblast protein-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- SUBCELLULAR LOCATION: Secreted into the uterine lumen.
-!- TISSUE SPECIFICITY: Constitutively and exclusively expressed in the monuculear cells of the extra-embryonic trophectoderm.
-!- DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-!- MISCELLANBOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with
                                                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae;
                                                                                                                                                                                                                                                                                                              MEDLINE-91067497; PubMed-1701245;
Klemann S.W., Imakawa K., Roberts R.M.;
"Sequence variability among ovine trophoblast interferon CDNA.";
Nucleic Acids Res. 18:6724-6724(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   receptor and oxytocin receptor genes in the ovine endometrium.";
Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
MEDLINE=95062134; PubMed=7971949;
Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V.,
Krishna N.R., Pontzer C.H.;
"Predicted structural motif of IFN tau.";
Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3D-STRUCTURE MODELING.
MEDILINE=96318228; PubMed=8746786;
Senda T., Saitch S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                     Name=IFNT5;
Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                        NCBI_TaxID=9940;
                                                                                                                                                                                                                  Caprinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REVIEW
```

ဖ

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LÓQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                84 LOGSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRDQVMGEKDSELGNVDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSERIMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24 CYLSORLMLDAKENLKLLDRMNRLSPHSCLÓDRKDFGLÞÓEMVEGDÓLÓKDÓAFPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-7 precursor (IFV-tau) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                       ullerent biological potency and pattern of expression. SIMILARITY: Belongs to the alpha/beta interferon family. IFNalphall subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144 KKYFQGIHDYLQEKGYSDCAWEIURVEMMRALIVSTTLQKRLIKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chordata, Craniata, Vertebrata; Euteleostomi;
Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Trophectoderm;
MEDLINE=93250155; PubMed=8485241;
Nephew K.P., Whaley A.E., Christenson R.K., Imakawa K.;
"Differential expression of distinct mRNAs for ovine trophoblast protein-1 and related sheep type I interferons.";
Biol. Reprod. 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 881; DB 1; Length 19
Pred. No. 2.3e-73;
5; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14EA9038CB60A562 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    By similarity.
Interferon tau-5.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                97.1%; Score 881;
                                                                                                                                                                                                                                                                                             HSSP, P56828; 1B5L.
InterPro, IPR009079; 4 helix cytokine.
InterPro, IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22163 MW;
                                                                                                                                                                                                                                                                          EMBL; X56342; CAA39782.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        166; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                52 1
195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ovis aries (Sheep).
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Caprinae: Ovis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Name=IFNT7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INT7 SHEEP
Q08071;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INT7_SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 6
                 SO THE THE REAL PRINCES OF THE PRINC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

```
potentialities.";

Biochimie 80:755-777(1998)

1- FUNCTION: Paracrine hormone primarly responsible for maternal recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium in the suppression of the pulsatile endometrium the receptor expression in the endometrium of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IRN-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the endometrium of the nutrients required for the growth of the antiproliferative potency concurrently with particular weak oytotoxicity, high antiluteolytic activity and immunomodulatory inducible.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBCELLULAR LOCATION: Secreted into the uterine lumen.
-!-SUBCELLULAR LOCATION: Secreted into the uterine lumen.
-!-TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm.
-!-DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-!-MISCELLANEOUS: IFN-tau genes are introlless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.
-!-SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFN1 Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProDom; PD000550; Interferon abd; 1.
PROSITE; PS00252; INTERFERON A B D; 1.
Antiviral; Cytokine; Hormone; Multigene family; Pregnancy; Signal.
receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                    Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H., "Predicted structural motif of IFN tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                    CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSP; P56828; 1B5L.
InterPro; IPR009079; 4_helix_cytokine.
InterPro; IPR000471; Interferon_abd.
                                                                                                                                                                                                    MEDLINE=95062134; PubMed=7971949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PR00266; INTERFERONAB
                                                                                                                                                                                                                                                                                                                                                                                                         Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00143; Interferon; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; M88771; AAA31505.1; -. PIR; I47068; I47068.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3D-STRUCTURE MODELING
```

```
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                            ö
                                                                                                                                                                          61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                   9
                                                                                                                                       83
                                                                                                                              24 CYLSRRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                 1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                             30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
65-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-9 precursor (IFN-tau9) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Marteal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFN1. Structural characteristics, non-
                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                        144 KKYFQGIHDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                              Ovis aries (Sheep).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nephew K.P., Whaley A.E., Christenson R.K., Imakawa K.; "Differential expression of distinct mRNAs for ovine trophoblast protein-1 and related sheep type I interferons."; biol. Reprod. 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Spencer T.E., Bazer F.W.;
"Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium.";
Endocrinology 137:1144-1147(1996).
                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto B.V., Krishna N.R., Pontzer C.H.; "Predicted structural motif of IFN tau.";
                                                                     Length 195;
                                                                                          3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Senda T., Saitch S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING. MEDLINE=95062134; PubMed=7971949;
                                              1444AEDE80ABAB48 CRC64;
                                                                     , DB 1;
4.4e-73;
 By similarity.
Interferon tau-7.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                           195 AA
                                                                                        3; Mismatches
                                                                     Score 878;
                                                                               No.
                                                                                Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=96318252; PubMed=8746786;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
TISSUE=Trophectoderm;
MEDLINE=93250155; PubMed=8485241;
1 23 BY
24 195 Ini
24 122 BY
52 162 BY
195 AA; 22223 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein Eng. 7:863-867 (1994).
                                                                     96.8%;
96.5%;
                                                                               Best Local Similarity 96.5
Matches 146; Conservative
                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3D-STRUCTURE MODELING.
                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                   Name=IFNT9;
                                                                                                                                                                                                                                                                                          SHEEP
                     DISULFID
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                   Caprinae;
                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION
  SIGNAL
                                                                                                                                                                                                                                                                                                    008070;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REVIEW
                                                                                                                                                                                                                                                                             SHEEP
                                                                                                                                                                                                                                                                                          6INI
  FTT
                                                                                                                 ઠે
                                                                                                                                                             ò
                                                                                                                                                                                 g
                                                                                                                                                                                                          ò
                                                                                                                                                                                                                               셤
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                  recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrial release of the luteolytic hormone prostaglandin P2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cytotoxicity, high antiluteolytic activity and immunomodulatory properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24 CYLSQRIMLDARENLKLLEPMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84 LOQTENLEHTEHSSAAMDTTLLEQLCTGLQQQLEDLDTCRGQVMGEBDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CYLSERIMIDARENIKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SUBCELLULAR LOCATION: Secreted into the uterine lumen.
-!- TISSUB SPECIFICITY: Constitutively and exclusively expressed in the monouclear cells of the extra-embryonic trophectoderm.
-!- DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-!- MISCELLANBOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia.
They encode for proteins very similar in sequence but with
       a pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00266; INTERFERONAB.
PRODOM; PD000550; Interferon abd; 1.
PROSITE; PS00252; InterFERON A B D; 1.
Antiviral; Cytokine; Hormone; Multigene family; Pregnancy; Signal.
                                                                potentialities.",
Biochimie 80:755-777(1998).
-!- FUNCTION: Paracrine hormone primarly responsible for maternal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     different biological potency and pattern of expression. SIMILARITY: Belongs to the alpha/beta interferon family. IFNalphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      144 KKYFQGIYDYLQEKGYSDCAWEIURVEMMRALTUSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 195;
expression, structure-function relationships,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2; Indels
                                 hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96.1%; Score 872; DB 1; 95.9%; Pred. No. 1.6e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interferon tau-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. 1.66
5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  By similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR; 147066; 147066.
HSSP, P56628; 1B5L.
InterPro; IPR009079; 4 helix_cytokine.
InterPro; IPR000471; Interferon_abd.
Pfam; PF00143; Interferon; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AA; 22127 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M88773; AAA31503.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23
195
122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24
24
52
195 /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      165;
```

```
MEDLINE=92242937; PubMed=1374107;
Leaman D.W., Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INT CAPHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOTT THE WAR WAR WAS A STATE OF THE WAS A STATE OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity This, and a possible direct effect of IRV-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclocarcity, high antiluteolytic activity and immunomodulatory properties. In contrast with other IPNs, IFN-tau is not virally inducible.
                                                                                                                                                                               30-WAY-2000 (Rel. 39, Created)
30-WAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-8 precursor (IFN-tau8) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein) (TP-08).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFN1. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic potentialities."; Biochimie 80:755-777(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ovis aries (Sheep).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
Caprinae, Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nephew K.P., Whaley A.E., Christenson R.K., Imakawa K.; "Differential expression of distinct mRNAs for ovine trophoblast protein-1 and related sheep type I interferons."; Biol. Reprod. 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144; Spencer T.E., Bazer F.W.; Spencer interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
MEDLINE=95062134; PubMed=7971949;
Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V.,
Krishna N.R., Pontzer C.H.;
"Predicted structural motif of IFN tau.";
Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3D-STRUCTURE MODELING.
MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Trophectoderm;
MEDLINE=93250155; PubMed=8485241;
                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=IFNT8;
                                                                                                                                                   SHEEP
                                                                                                                                                   INT8 SH
008072;
                                                                                                         INT8_SHEEP
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84 LQQSFNLFYTEHSSAAWDTTLLDQLCTGLQQQLEDLDTCRQQWGGEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24 CYLSQRLMLDARENIRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
55-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau precursor (IRN-tau) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein).
Name=IFNT; Synonyms=CTP-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                 Pfam; PF00143; Interletcu., -
PRINTS; PR00266; INTERFERONAB.
PRODOM; PD000550; Interferon abd; 1.
PROSITE; PS00252; INTERFERONA B D; 1.
PROSITE; Cytokine; Hormone; Multigene family; Pregnancy; Signal.
Antiviral; Cytokine; By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKTGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 195;
SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       / similarity.
7F92C56EC8DB5AB8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.8%; Score 869; DB 1; 95.3%; Pred. No. 3e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interferon tau-8.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; M88772; AAA31506.1; -.
PIR; 147069; 147069.
HSSP; P56828; 1B5L.
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
Pfam; PF00143; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           195 AA; 22157 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    195
                                                                                                                                                                                                                                                                   alphail subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Goat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Capra hircus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 164;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAPHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P28171;
```

61

ઠે g ò g

24 CYLSRRLMLDARENLRLLDRMNRLSPHSCQQDRKDFGLPQEMVEGDQLQKDQASCVLYEM 83

σ

```
recognition of pregrancy. Interacts with endomeerial receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclocoxicity, high antiluteolytic activity and immunomodulatory inducivities. In contrast with other IFNS, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its mose by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
for the trophoblast interferons in sheep, goat, and musk ox and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE SPECIFICITY: Constitutively and exclusively expressed in TISSUE SPECIFICITY: Constitutively and exclusively expressed in DEVELOPMENTAL STAGE: Major secretory product synthesized by the conceptus during a very short period in early pregnancy.

MISCELLANEOUS: IFN-tau genes are intronless. They evolved from tirro-meas genes in the runminantia abborder and have continued to duplicate independently in different lineages of the runminantia. They encode for proteins very similar in sequence but with sidifferent biological potency and pattern of expression.

SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                                                                                                                                Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.;
"IFN-tau: a novel subtype I IFN1. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                    MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: Paracrine hormone primarly responsible for maternal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              049F91D3EB1CDB67 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ProDom; PD000550; Interferon abd; 1.
PROSITE; PS00252; INTERFERON A B D; 1.
Antiviral; Cytokine; Hormone; Pregnancy; Signal.
                               distribution of related genes among mammals."; J. Interferon Res. 12:1-11(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Interferon tau.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL, M73243, AAA30907.1, -.
PIR, 146272, 146272.
HSSP, P56828, 1B5L.
Incerpro, IPR000979, 4 helix cytokine.
InterPro, IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22172 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PR00266; INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00143; Interferon; 1
                                                                                                                                                                                                                                                                                                                                                                                                         potentialities.";
Biochimie 80:755-777(1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24 1
24 1
52 1
195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nducible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIGNAL
                                                                                                                                                 REVIEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHAIN
% THE TENT OF THE
```

```
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-6 precursor (IRN-tau6) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Winkelman G.L., Roberts R.M., Peterson A.J., Alexenko A.P., Ealy A.D.; "Identification of the expressed forms of ovine interferon-tau in the peri-implantation conceptus: sequence relationships and comparative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFNI. Structural characteristics, non-ubiquitous expression, etructure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 24-195 FROM N.A. (IFN-TAUGA; IFN-TAUGB AND IFN-TAUGC).
                                                                                                                                                                                                                                                                                                                                                    Chordata, Craniata, Vertebrata, Euteleostomi,
Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-91067497; PubMed=1701245;
Klemann S.W., Imakawa K., Roberts R.M.;
"Sequence variablity among ovine trophoblast interferon CDNA.";
NuCleic Acids Res. 18:6724-6724(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Spencer T.E., Bazer F.W.;
"Ovine interferon ten suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium.";
Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H., "Predicted structural motif of IFN tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            biological activities.";
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3D-STRUCTURE MODELING.
MEDLINE=96318225; PubMed=8746786;
Senda T., Saitch S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
MEDLINE-95062134; PubMed=7971949;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interferon Cytokine Res. 15:1053-1060(1995).
                                  195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (IFN-TAU6D).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (IFN-TAU6D)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein Eng. 7:863-867(1994).
                                  STANDARD;
                                                                                                                                                                                                                                                                                                              Ovis aries (Sheep).
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                             Mammalia; Eutheria;
Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Roberts R.M.;
                                                                                                                                                                                                                                                                                Name=IFNT6;
                                  INT6 SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REVIEW
INT6_SHEEP
                                                                    A PART TAY A REPORT OF THE REST OF THE RES
```

ö

Gaps

ö

Length 195;

93.1%; Score 844; DB 1; Length 19. 93.6%; Pred. No. 6.1e-70; ive 3; Mismatches 8; Indels

Best Local Similarity 93.6 Matches 161; Conservative

Query Match

```
recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium. This results in the hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (lutedi) F2-alpha, hindering the regression of the corpus luteum synthesis, leads in turn to contrinued ovarian prostaglandin synthesis, leads in turn to contrinued ovarian prospaterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cytocoxicity, high antiluteolytic activity and immunomodularcry properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Interferon tau-6.

By similarity.

By similarity.

N-linked (GICNAC. . .) (Potential).

K -> E (in IFN-tau6A and IFN-tau6B).

K -> N (in IFN-tau6A, IFN-tau6B and IFN-
                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days is and 21 of pregnancy. POLYMORPHISM: There seems to be four variants of IFN-tau 6: A/F6V3, B/F6V2, C/F6V1 and D/F6/F12 (shown here). MISCELLANEOUS: IFN-tau genes are intronless. They evolved from MISCELLANEOUS: IFN-tau genes are intronless. They continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.
potentialities.";
Biochimie 80:755-777(1998).
-!- FUNCTION: Paracrine hormone primarly responsible for maternal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PERM, PP00143; Interferon; 1. PRINTS; PR00143; Interferon; 1. PRINTS; PR00266; INTERFERONAB.
PRODOM; PD000550; INTERFERON A. B.D.; 1. PR051TE; PS00522; INTERFERON A. B.D.; 1. Antiviral; Cytckine; Glycoprotein; Hormone; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92.0%; Score 834; DB 1; Length 195; 91.9%; Pred. No. 5.1e-69; Live 7; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22102 MW; C8428392E78CA387 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -> M (in IFN-tau6A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Polymorphism; Pregnancy; Signal.
SIGNAL 1 23 By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tau6C)
T -> M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AFIS8823; AAD44975.1; -. EMBL; AFIS8822; AAD44974.1; -. EMBL; AFIS8821; AAD44973.1; -. PIR; AG1455; AG1455.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; X56343; CAA39783.1; -. EMBL; X56346; CAA39786.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
```

```
LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                         84 LQQSFNVFHTERSSAAWNTTLLEQLCTGLQQQLDHLDTCRGPVMGEKDSELGKMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              most, 60:0005576; C:extracellular, IEA.
GO; GO:0005576; C:extracellular, IEA.
GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
GO; GO:0006952; P:defense response; IEA.
InterPro; IPR0009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
1 CYLSERIMLDARENLKILDRWNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 CYLSRRLMLDARENIALLDRWNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                       KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                    Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Capra hirous (Goat).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
                                                                                                                                         144 KKYFQGIHDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKTGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ealy A.D., Wagner S.K., Sheils A.E., Whitley N.C., Kiesling D.O., Barbato G.F., Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the alpha/beta interferon family.
EMBL; AY357329; AAQ56198.1; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KKYFQGIHDYLQEKEYSDCAWEIURVEMMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 91.3%; Score 828; DB 2; Length 19
Best Local Similarity 92.4%; Pred. No. 1.8e-68;
Matches 159; Conservative 5; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEGM; PRO143; INCEFECON; 1.
PRINTS; PR00266; INTERFERONAB.
PRODOM; PD000550; Interferon_abd; 1.
SMART; SM00076; IFabd; 1.
PROSITE; PS00252; INTERFERON_A_B_D; 1.
Antiviral, Cytokine.
SEQUENCE 195 AA; 22294 MW; 323B782D1D16E69E CRC64;
                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Interferon-tau 2b (Interferon-tau 2a).
                                                                                                                                                                                                                                                PRT; 195 AA
                                                                                                                                                                                                                                                                             05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last seq
05-JUL-2004 (TrEMBLrel. 27, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 159; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                       Capra hircus (Goat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                    Interferon-tau 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q6UZ50;
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                          Caprinae;
                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    144
                                                   61
                                                                                                                                                                                                                                                                  26UZ49;
                                                                                                                                                                                                                                                Q6UZ49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q6UZ50
                                                                                                                                                                                                             RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
                                                                                                                                                                                                                               Q6UZ49
ID Q6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q6UZ50
                                                                                  셤
                                                                                                                         ठ
                                                                                                                                                      셤
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OSBUTTO
                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
```

ö

Gaps

; 0

1 CYLSERLMIDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60

Matches 158; Conservative Similarity

```
TISSUE=Trophectoderm;
MEDLINE=93250155; PubMed=8485241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3D-STRUCTURE MODELING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=IFNT10;
                                                                                                                                                                                                                                                                                                                                                                                    SHEEP
NON TER
SEQUENCE
                                                                                                                                                                                          61
                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REVIEW
                                                                                                                                                                                                                                                                                                                                                                     INTA_SHEEP
                                                                                                                                                                                                                                                                                                                                                 RESULT 14
 SOF
                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84 LQQTFNLFYTEHSSAAWDTTLLEQLRTGLQQQLEDLDTCRGPVMGEKDSELGKMDPIVTV 143
                                                                                                                                                                                                 GO; GO:0005276; C:extracellular; IEA.
GO; GO:0005276; C:extracellular; IEA.
GO; GO:000525; P:bematopoietin/interferon-class (D200-domain. .; IEA.
GO; GO:0005925; P:defense response; IEA.
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon abd.
Pfam; PPR00143; Interferon abd.
PRODO: PR00266; INTERPERONB.
PRODO: PR00266; INTERPERONB.
PROSITE; SM00076; IFabd; 1.
Antiviral; Cytokine.
SMART; Cytokine.
SMART; Cytokine.
SEQUENCE 195 AA; 22313 MW; C99AC236A716F654 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 CYLSRRIMIDARENIRILDRAMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cura aries (Sneep).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;

Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;

Caprinae; Ovis.
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      144 KKYPQGIHDYLQEKEYSDCAWEIVRVEWMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GO; GO:0005576; C:extracellular; IEA.
GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. .
GO; GO:0006952; F:defense response; IEA.
InterPro; IPR009079; 4_helix_cytokine.
InterPro; IPR000471; Interferon_abd.
PF00143; Interferon; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                              SEQUENCE FROM N.A.
Ealy A.D., Wagner S.K., Sheils A.E., Whitley N.C., Kiesling
Barbato G.F.,
                                                                                                               Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the alpha/beta interferon family.
EMBL; AYS57328; AAQ56197.1; -.
EMBL; AXS57327; AAQ56196.1; -.
HSSP; P56828; JBSL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wang X., Wang M., Xia C., Zhu D., Liou C., Bai Y.;
Submitted (DEC-2003) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the alpha/beta interferon family.
EMBL, AY499657; ARR55892.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                     91.3%; Score 828; DB 2; Length 19
92.4%; Pred. No. 1.8e-68;
tive 5; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          172 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SMART; SM00076; IFAbd; 1.
PROSITE; PS00252; INTERFERON_A_B_D; 1.
Antiviral; Cytokine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRINTS, PR00266, INTERFERONAB.
ProDom; PD000550; Interferon_abd; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Interferon tau (Fragment).
Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 92.4
Matches 159; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        [1]
SEQUENCE FROM N.A.
              Caprinae, Capra.
NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q6RFZ8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 13
```

Q6RFZ8

A PACE OF CARANTA CONTRACTOR CONT

g ò

ð 셤 ò a

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LQQTFNLFYTEHSSAAWDTTLLEQLRTGLQQQLEDLDTSRGPVMGEKDSELGRMDPIVTV 120
                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-10 precursor (IFN-taul0) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                                                                                                                          CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM
                                                                                                                                                                                                                                                                                                                                                                                               LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOOLDHLDTCRGOVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                               1 CYLSERLMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martell J.L., Chene N.M., Huynh L.P., L'Hariddon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFN1. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIHDYLQEKEYSDCAWEIURVEMMRALTSSTTLQKRLTKWGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ovis aries (Sheep).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
Caprinae, Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nephew K.P., Whaley A.E., Christenson R.K., Imakawa K.; "Differential expression of distinct mRNAs for ovine trophoblast protein-1 and related sheep type I interferons."; Biol. Reprod. 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144; Spencer T.E., Bazer F.W.; Gybencer T.E., Bazer F.W.; Gvine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                                                                                                          ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                    Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95062134; PubMed=7971949;
Azarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V.,
Krishna N.R., Pontezr C.H.; Rrishna N.R., Pontectural motif of IFN tau.";
                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96318252; PubMed=8746786; Senda T., Saitoh S.-I., Mitteui Y., Li J., Roberts R.M.; Senda T., Saitoh S.-I., Mitteui Y., Li J., Roberts R.M.; "A three-dimensional model of interferon-tau."; J. Interferon Cytokine Res. 15:1053-1060(1995).
1
172 AA; 19992 MW; 65984B2F91335046 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING
                                                                                                            8.6e-68;
8;
                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                        Query Match
90.4%; Score 820; DB
Best Local Similarity 91.9%; Pred. No. 8.6e
Matches 158; Conservative 6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 195
```

```
121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                      Q6UZ47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSSP;
                                RESULT 15
                                                           Q6UZ47
                                                                                                                   DDAY REAR READD THE THE READD AND THE READD 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                    recognition of pregnancy. Interacts with endometrial receptors, probably type Interacts with endometrial receptors, probably type Interacts with endometrial receptors, probably type Interferon receptors, and blocks estrogen receptors expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian prosterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antivirial and antiproliferative potency concurrently with particular weak cycotoxicity, high antiluteolytic activity and immunomodularcry properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CYLSERLMLDARBULKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEAQAFCVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE SPECIFICITY: Constitutively and exclusively expressed in TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.

MISCELLANEOUS: IFN-tau genes are intronless. They evolved from thromand as uborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with alfferent biological potency and pattern of expression.

SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Interferon tau-10.
By similarity.
By similarity.
N-linked (GlcNAc. . .) (Potential).
16084C3184AC3963 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL, M88770; AAA31504.1; -.
PIR, 147067; 147067.
HSSP, P56828; 1B5L.
InterPro; IPR009079; 4 helix_cytokine.
InterPro; IPR009071; Interferon_abd.
Pfam; PF00143; Interferon; 1.
PRINTS; PR00266; INTERFERONAB.
PROSUTE; P800250; INTERFERONAB.
PROSUTE; P800550; INTERFERONAB, 1.
Antiviral; Cytokine; Glycoprotein; Hormone; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         89.3%; Score 810; DB 1; Length 195; 90.1%; Pred. No. 8.4e-67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           By similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22069 MW;
  80:755-777 (1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 155; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24 1
52 1
101 1
195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pregnancy; Signal.
SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
Biochimie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local
     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                84 LQQTFNLFRTERSSAAWNTTLLEQLHTGLQQQLEDLDTCRGLVMGEKDSELGKMDPIMTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GO; GO:0005126; F.hemaropoinerin/interferon-class (D200-domain. . .; IEA. GO; GO:0006952; P.defense response; IEA. InterPro; IRR009079; 4 helix cytokine. InterPro; IRR00401; Interferon_abd. Pfam; PF00143; Interferon; 1.
                                                                                                               05-001.

O5-001.

O5-001.

O5-001.

Interferon-tau 4D (Interferon-tau 4c) (Interferon-tau 4d) (Interferon-tau 4b) (Interferon-tau 4b).

Interferon-tau 4b.

Interferon-tau 4a).

Capra hircus (Goat).

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Caprinae; Capra.

NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24 CYLSRRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          144 KKYFQGIHDYLQEKEYSDCAWEIVRVEMMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                          Wagner S.K., Sheils A.E., Whitley N.C., Kiesling D.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the alpha/beta interferon family.
EMBL, AV357331; AAQ56200.1; -.
EMBL, AV357333; AAQ56201.1; -.
EMBL, AV357333; AAQ56201.1; -.
EMBL, AY357334; AAQ56203.1; -.
EMBL, AY357334; AAQ56203.1; -.
EMBL, AY357334; AQG56203.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88.4%; Score 802; DB 2; Length 19
90.1%; Pred. No. 4.6e-66;
tive 7; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              195 AA; 22354 MW; D364AC9A972D8FC4 CRC64;
                                                                                               Last sequence update)
195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE, PS00252, INTERFERON A B D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GO; GO:0005576; C:extracellular; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PRO0266; INTERPERONAB.
ProDom; PD000550; Interferon_abd; 1.
SMART; SM00076; IFabd; 1.
                                                           05-JUL-2004 (TrEMBLrel. 27, Created)
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 90.1
Matches 155; Conservative
PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Antiviral; Cytokine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P56828; 1B5L.
                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ealy A.D., wa
Barbato G.F.;
```

Search completed: October 28, 2005, 14:59:57 Job time : 115.5 secs

Sequence Sequence Sequence Sequence Sequence Sequence

US-08-631-328-4 US-08-631-328-44 US-08-455-5248-4 US-08-455-0218-4 US-08-455-0218-4 US-08-455-0218-4 US-08-455-0218-4 US-09-045-467-44 US-09-045-467-44 US-08-413-838-12 US-08-431-328-12 US-08-431-328-12 US-08-455-0218-12 US-08-455-0218-12 US-08-443-883A-12 US-08-443-883A-12 US-08-443-883A-30 US-08-443-883A-30 US-08-443-883A-30 US-08-443-883A-30 US-08-443-883A-30

Sequence Sequence Sequence

ALIGNMENTS

Sequence Sequence Sequence Sequence

Sequence Sequence

```
COMPUTER READABLE Flower:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: Patentin Release #1.0, Version #1.25
SOCTWARE: PPPLICATION DATA:
APPLICATION NUMBER: US/08/438,753B
FILING DATE: 10-MAY-1995
FILING DATE: 10-MAY-1995
FILING DATE: 10-MAY-1995
FILING DATE: 19-OCT-1993
PRIOR APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/969,890
FILING DATE: 02-MAR-1989
PRIOR APPLICATION NUMBER: US 07/969,890
FILING DATE: 02-MAR-1989
PRIOR APPLICATION NUMBER: S0-OCT-1992
ATTORNEY/AGENT INFORMATION:
NAME: Sholtx: Charles K.
REGISCHARATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 36,615
RELECOMMUNICATION INFORMATION:
TELEFORMATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 38,615
REFERENC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 1
US-08-438-753B-2
2, Appli
2, Appli
2, Appli
2, Appli
18, Appli
18, Appli
18, Appli
19, Appli
10, Appli
11, Appli
                                                                                                                                                        October 28, 2005, 14:51:03 , Search time 24.5 Seconds (without alignments) 524.067 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sednence
                                                                                                                                                                                                                                                                        907
1 CYLSERLMLDARENLKLLDR.....TVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/BCTUS_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                     GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-455-524B-2
US-08-455-021B-2
US-09-045-467-2
US-08-954-395A-18
US-08-616-904-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S-09-599-413-18
S-09-599-413-2
S-09-599-413-7
S-09-599-413-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Potal number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3-09-599-413-5
3-09-599-413-10
3-09-599-413-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -08-438-753B-4
-08-438-753B-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-443-883A-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-908-594-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -09-599-413-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -09-599-413-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -09-599-413-8
                                                                                                                                                                                                                                                                                                                                                                                                                  513545 seqs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                             OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued Patents AA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        *
Query
Match Length DB
                                                                                                                                                                                                                                                    US-10-719-472-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Database :
                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Result
```

```
US-08-443-883A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-631-328-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGIH:
                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                     1 CYLSERIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                        Length 172;
                                                                                                                                                                                                                                                                   1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Bazer, Fuller W.
APPLICANT: Johnson, Howard M.
APPLICANT: Oct., Troy L.
APPLICANT: Van Heeke, Gino
APPLICANT: Wan Heeke, Gino
APPLICANT: Win Heeke, Sino
APPLICANT: Win Heeke, Sin
                                   amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/443,883A
                                                                                                                                                                                    Score 899; DB 1;
Pred. No. 1.6e-98;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33,875
PP: 5600-0001.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AFLICATION NUMBER: US/US/443,883A
FILING DATE:
CLASSIFICATION 435
PRIOR APPLICATION DATE:
APPLICATION NUMBER: US 08/139,891
FILING DATE: 19-OCT-1993
PRIOR APPLICATION DATE:
APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1989
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 30-OCT-1993
APPLICATION NUMBER: US 07/318,050
FILING DATE: 30-OCT-1993
ATTORNEY, AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2, Application US/08443883A Patent No. 5738845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Fabian, Gary R.
REGISTRATION NUMBER: 33,875
REFERENCE/DOCKET NUMBER: 56
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                        99.1%;
98.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: 415-324-0960
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE: 415-324-0880
                                                                                                                                                                                    Query Match
Best Local Similarity 98.8
Matches 170; Conservative
ORIGINAL SOURCE:
INDIVIDUAL ISOLATE:
INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                              US-08-438-753B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-443-883A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
```

```
61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                    1 CYLSRKIMIDARENLKILDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                      1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 KKYFQGIYDYLQEKGXSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                                Query Match 99.1%; Score 899; DB 1; Length 172; Best Local Similarity 98.8%; Pred. No. 1.6e-98; Matches 170; Conservative 1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Johnson, Howard M.
APPLICANT: Johnson, Howard H.
APPLICANT: Pontzer, Carol H.
APPLICANT: Subramaniam, Prem S.
TITLE OF INVENTION: Hybrid Interferon Compositions and
TITLE OF INVENTION: Methods of Use
UNDMESR OF SEQUENCES: 55
CORRESPONDENCES ADDRESS:
ADDRESSEE: Dehlinger & Associates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/631,328
FILING DATE: 12-APR.1996
CLASSIFICATION NUMBER: US/08/631,328
FILING DATE: 12-APR.1996
ATOMNEY AGENT INFORMATION:
NAME: SIDILE CARLIES K.
REGISTRATION NUMBER: 38,615
REPRENCE/DOCKET NUMBER: 5600-0001.34
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPRAK: 415-324-0880
TELEPRAK: 415-324-0860
                                                                                                                            amino acid sequence of OviFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: JSO Cambridge & Associates STREET: 350 Cambridge Ave., Suite 250 CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/08631328
Patent No. 5939286
LENGTH: 172 amino acids
TYPE: amino acid
TYPE: Description
TOPCLGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
INDIVIDUAL ISOLATE: amino
INDIVIDUAL ISOLATE: OVIFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 415-324-0960
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 : 172 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein

ORIGINAL SOURCE:

INDIVIDUAL ISOLATE: a

ISOLATE: 0

US-08-631-328-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 94306
```

Gaps

ö

Indels

```
61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LQSSFNLFYTEHSSAAWDTTLLEGLCTGLQQQLDHLDTCRGQVMGEEDSELGNWDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                              Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Bazer, Fuller W.
APPLICANT: Donnson, Howard M.
APPLICANT: Pontzer, Carol H.
APPLICANT: Pontzer, Carol H.
APPLICANT: Troy L.
APPLICANT: Imakawa, Kazuhito
TITLE OF INVENTION: Interferon Tau Compositions and
TITLE OF INVENTION: Methods of Use
NUMBER OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
                                                                            | INDIVIDUAL ISOLATE: amino acid sequence of a mature | INDIVIDUAL ISOLATE: OviFNtau protein US-08-455-524B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                      Query Match
Best Local Similarity 98.8%; Pred. No. 1.6e-98;
Matches 170; Conservative 1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Dehlinger & Associates
STREET: 150 Cambridge Ave., Suite 250
CITY: Palo Alto
STATE: CA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Sholtz, Charles K.
REGISTRATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 5600-0001.31
TELECOMMINICATION INFORMATION:
TELEPHONE: 415-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/139,891
FILING DATE: 19-0CT-1993
FRIDR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/959,890
FILING DATE: 30-0CT-1992
ATTORNEY/AGENT INFORMATION:
NAME: CALL: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Patentin Release #1.0, Ve CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/455,021B FILING DATE: 31-MAY-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-455-021B-2
; Sequence 2, Application US/08455021B
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 415-324-0960
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy of
                                  MOLECULE TYPE: protein ORIGINAL SOURCE:
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                       ó
                                                                                                                                                                                                                                                                                                                                                                 61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEBDSELGNMDPIVIV 120
                                                                                                                                                                                                                                                                                                                       61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNWDPIVTV 120
                                                                                                                                                                                                                           1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                             1 CYLSERLMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                      Length 172;
                                                                                                           1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Johnson, Howard M.
APPLICANT: Johnson, Howard M.
APPLICANT: Pontzer, Carol H.
APPLICANT: Pontzer, Carol H.
APPLICANT: Van Heeke, Gino
TITLE OF INVENTION: Interferon Tau Compositions and
TITLE OF INVENTION: Interferon Tau Compositions and
TITLE OF INVENTION: Methods of Use
NUMBER OF SEQUENCES: 44
CORRESPONDER ADDRESS:
ADDRESSEE Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPERATING SYSTEM:
OPERATION OF PROCESSION MANAGEMENT APPLICATION DATA:
APPLICATION NUMBER: US/08/455,524B
FILING DATE: 31-MAY-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/438,753
FILING DATE: 10-MAY-1995
PRIOR APPLICATION NUMBER: US 08/438,753
FILING DATE: 10-MAY-1995
PRIOR APPLICATION NUMBER: US 08/139,891
FILING DATE: 19-OCT-1993
PRIOR APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION NUMBER: US 07/847,741
FILING DATE: 02-MAR-1992
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1999
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 03-MAR-1999
PRIOR APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-OCT-1992
ATTOMEV/AGENT INFORMATA:
ATTOMET NUMBER: US 07/969,890
                                  99.1%; Score 899; DB 2;
98.8%; Pred. No. 1.6e-98;
tive 1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEE: Dehlinger & Associates
: 350 Cambridge Ave., Suite 250
Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5600-0001.32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READBBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-455-524B-2
; Sequence 2, Application US/08455524B
Patent No. 5942233
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Sholtz, Charles K.
REGISTRATION NUMBER: 38,615
REFERENCE/DOCKET NUMBER: 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 172 amino acids TYPE: amino acids
                              Query Match
Best Local Similarity 98.8
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Palo
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 4
```

```
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                  1 CYLSERIMIDARENIKLIDRMNRISPHSCLQDRKDFGIPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLIKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                      Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER KEADABLE FORM

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

OPERATING SYSTEM: PC-DOS/MS-DOS

CORRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/045,467

FILING DATE: 10-MAX-1998

CLASSIFICATION NUMBER: US 08/455,021

FILING DATE: 11-MAY-1995

APPLICATION NUMBER: US 08/438,753

FILING DATE: 10-MAY-1995

APPLICATION NUMBER: US 08/139,891

FILING DATE: 10-MAY-1992

APPLICATION NUMBER: US 07/847,741

FILING DATE: 02-MAR-1992

APPLICATION NUMBER: US 07/847,741

FILING DATE: 02-MAR-1992

APPLICATION NUMBER: US 07/318,050

FILING DATE: 10-MAY-1992

APPLICATION NUMBER: US 07/318,050

FILING DATE: 10-MAY-1992

APPLICATION NUMBER: US 07/969,890
                                                                                                                                                                                                                                                                                                     1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Johnson, Howard M.
Pontzer, Carol H.
TITLE OF INVENTION: Interferon Tau Compositions and
Methods of Use
                                                                                                                                                   amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                 Query Match

99.1%; Score 899; DB 2;
Best Local Similarity 98.8%; Pred. No. 1.6e-98;
Matches 170; Conservative 1; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES: 44

CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: Dehlinger, Peter J.
REGISTATION NUMBER: 28,006
REFERENCE/DOCKET NUMBER: 5600-0001.36
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: 650-324-0880
TELEFAX: 650-324-0960
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application US/09045467 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 94306
COMPUTER READABLE FORM:
                       LENGTH: 172 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
SEQUENCE CHARACTERISTICS
                                                                                                                                                 ; INDIVIDUAL ISOLATE:
; INDIVIDUAL ISOLATE:
US-08-455-021B-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
US-09-045-467-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LÓGSFNLFYTEHSSAAWDTTLLEQLCTGLÓGOLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKIMIDARENIKILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                               1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
              LENGTH: 172 amino acids
TYPE: amino acid
TYPE: amino acid
TYPE: protein
MOLECULE TYPE: protein
ORIGINAL SOURCE:
INDIVIDUAL ISOLATE: amino acid sequence of a mature
                                                                                                                                                                                                                                                     Length 172;
                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lip T.
LOW-TOXICITY HUMAN INTERFERON-ALPHA
ANALOG
                                                                                                                                                                                                                                                   Query Match 99.1%; Score 899; DB 3; Best Local Similarity 98.8%; Pred. No. 1.6e-98; Matches 170; Conservative 1; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: DOS SOFTWARE: FastSEQ for Windows Version 2.0 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/954,395A FILING DATE: Filed Herewith CLASSIFICATION: 435 PRIOR APPLICATION HAS PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/631,328 FILING DATE: 12-APR-1996 ATTORNEY/AGENT INFORMATION:
                                                                                                                                               SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-045-467-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3: Dehlinger & Associates LLP
350 Cambridge Ave., Suite 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5600-0001.35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Subramaniam, Prem S.
APPLICANT: Subramaniam, Prem S.
APPLICANT: Pontzer, Carol H.
APPLICANT: Villarete, Lorelie H.
APPLICANT: Campos, Jackeline H.
APPLICANT: Campos, Jackeline H.
APPLICANT: Liu, Mayne W.
APPLICANT: Liu, Philip T.
TITLE OF INVENTION: LOW-TOXICITY F.
TITLE OF INVENTION: AMALOG
NUMBER OF SEQUENCES: 35
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 18, Application US/08954395A Patent No. 6204022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Dehlinger, Peter J
REGIGSTRATION NUMBER: 27008
REFERENCE/DOCKET NUMBER: 56
TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       E: Diskette
IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  650-324-0960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Palo Alto
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-954-395A-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
```

```
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH
                                                               ઠ
                                                                                                 g
                                                                                                                                         ò
                                                                                                                                                                               셤
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                              1 CYLSRKIMLDARENLKILDRANRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVIV
                                                                                                                                                                                                                                                                                     1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/08616904

Patent No. 6372206

GENERAL INFORMATION:
APPLICANT: Soos, Jeanne M.
APPLICANT: Schiffenbauer, Joel
APPLICANT: Schiffenbauer, Joel
APPLICANT: Golnson, Howard M.
TITLE OF INVENTION: Compositions and Methods
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS:
ADDRESSEE: Deblinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
                                                                                                                                                                                                       Length 172;
                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

SEGURATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: BAFEAITIN Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/616,904

FILING DATE: 15-MAR-1996

CLASSIFICATION: 514

ATTORNEY/AGENT INFORMATION:

NAME: Sholtz, Charles K.

REGISTRATION NUMBER: 38,615

REPRENCE/DOCKET NUMBER: 5600-0003

TELEPHONE: 415-324-0880

TELEPHONE: 415-324-0860

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE CHARACTERISTICS:

LENGTH: 172 anino acids

TYPE: amino acids
                                                                                                                                                                                                  Score 899; DB 3;
Pred. No. 1.6e-98;
1; Mismatches 1;
                                                                                                 IMMEDIATE SOURCE:
LIBRARY: GenBank Accessn. Y00287, PID g1358
CLONE: Ovine IFN-tau, mature protein
US-08-954-195A-18
                                                                                                                                                                                                    Query Match
Best Local Similarity 98.8%;
Matches 170; Conservative
LENGTH: 172 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                      ESS: single
linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: protein ORIGINAL SOURCE:
                                                                                MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INDIVIDUAL ISOLATE: INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-616-904-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-616-904-2
                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

Length 172;

DB 3;

99.1%; Score 899;

Query Match

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                              61 LOQSFNLFYTEHSSAAWDITLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                    61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGBEDSELGNMDPIVIV 120
                                                                        9
                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-599-413-2
US-09-599-413-2
US-09-599-413-2
Sequence 2, Application US/09599413
Fatent No. 6833256
FABERBAL INFORMATION:
APPLICANT: Pontzer, Carol H
FILE REPREBRENCE: Interferon tau Mutants and Methods for Making Them
FILE NEPREBRENCE: Interferon tau
FURRENT APPLICATION NUMBER: US/09/599,413
CURRENT PILING DATE: 2000-06-22
FRIOR APPLICATION NUMBER: 60/140,411
FRIOR FILING DATE: 1999-06-22
NUMBER OF SEQ ID NOS: 20
SOFTWARE PATENTING UNC: 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 18, Application US/09599413

Patent No. 6833256
GENERAL INFORMATION:
GENERAL INFORMATION:
THILE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILE REPERENCE: interferon tau
CURRENT FILING DATE: 2000-06-22

PRIOR FILING DATE: 1999-06-22

PRIOR FILING DATE: 1999-06-22
                                                                  1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                 1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSQKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CYLSERLMIDARENLKILDRANRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                         0; Сарв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                         1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match

98.6%; Score 894; DB 4;
Best Local Similarity 98.3%; Pred. No. 6.2e-98;
Matches 169; Conservative 2; Mismatches 1.
  98.8%; Pred. No. 1.6e-98;
                    1, Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PatentIn Ver. 2.1
Best Local Similarity 98.83
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: ovine
US-09-599-413-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: ovine US-09-599-413-2
                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
US-09-599-413-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: E
```

ø

```
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                       LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGOVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LÓÓSFNLFÝTEHSSAAWDTTLLEQLCTGLQÓQLDHLDTCRGQGMGEEDSELGNMDFIVTV 120
                                                                                                                                            1 CYLSRKIMIDARENIKILIDRMNRISPHSCLQDRKDFGIPQEMVEGDQLQKDQAFPVIYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSRKIMLDARENLKILIDRANRISPHSCLQDRKDFGLPQEWVEGDQLQKDQAFPVLYEM 60
                                                                                                             1 CYLSERIMLDARENIKILDRANRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILE REPERENCE: Interferon tau
CURRENT APPLICATION NUMBER: US/09/599,413
CURRENT FILING DATE: 2000-06-22
PRIOR FILING DATE: 1999-06-22
NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wide-199-413-19
Sequence 19, Application US/09599413
Sequence 19, Application US/09599413
Sequence 19, Application US/09599413
Fatent No. 683326
GENERAL INFORMATION:
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILE REFERENCE: interferon tau
CURRENT APPLICATION NUMBER: US/09/599,413
CURRENT FILING DATE: 2000-06-22
PRIOR PEDICATION NUMBER: 60/140,411
PRIOR FILING DATE: 1999-06-22
NUMBER OF SEQ ID NOS: 20
SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEHMMRALIVSTTLQKRLIKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                 121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                         ö
Query Match 98.3%; Score 892; DB 4; Length 172; Best Local Similarity 98.3%; Pred. No. 1.1e-97; Matches 169; Conservative 1; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 98.1%; Score 890; DB 4; Length 172; Best Local Similarity 97.7%; Pred. No. 1.8e-97; Matches 168; Conservative 2; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7, Application US/09599413
Patent No. 6833256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT CRGANISM: ovine US-09-599-413-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: ovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
US-09-599-413-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 19
LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-599-413-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                          셤
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                              ò
```

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQGMGEEDSELGNMDPIVTV 120
                                                                                          9
                                                                                                            1 CYLSRKI.MIDARENI.KI.IDRWNRI.SPHSCI.KDRKDFGI.PQEMVEGDQLQKDQAFPVI.YEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                          1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Pontzer, Carol H
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILE REPERENCE: Interferon tau
CURRENT APPLICATION NUMBER: US/09/599,413
CURRENT APPLICATION NUMBER: 0000-06-22
PRIOR APPLICATION NUMBER: 60/140,411
PRIOR FILING DATE: 1999-06-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Pontzer, Carol H
TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILLE REFERENCE: interferon tau
CURRENT APPLICATION NUMBER: US/09/599,413
PURRENT FILING DATE: 2000-06-22
PRIOR APPLICATION NUMBER: 60/140,411
PRIOR FILING DATE: 1999-06-22
                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Gaps
                                                                                                                                                                                                                                                              121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLOKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIURVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                 ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 172;
    Length 172;
                                               3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97.9%; Score 888; DB 4;
97.7%; Pred. No. 3.2e-97;
tive 2; Mismatches 2;
Score 889; DB 4;
Pred. No. 2.4e-97;
0; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-599-413-20
; Sequence 20, Application US/09599413
; Patent No. 6833256
                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 9, Application US/09599413
; Patent No. 6833256
      98.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 20
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PatentIn Ver. 2.1
  Query Match
Best Local Similarity 98.31
Matches 169; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 97.77
Matches 168; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ ID NOS:
SOFTWARE: Patentin Ve
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: ovine
US-09-599-413-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: ovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 20
LENGTH: 172
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                            US-09-599-413-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
                                                                                          ઠે
                                                                                                                                셤
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
```

US-09-599-413-20

```
ô
                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/09599413

Patent No. 6833256

GENERAL INFORMATION:
APPLICANT: Pontzer Carol H

TITLE OF INVENTION: Interferon Tau Mutants and Methods for Making Them
FILE REPERENCE: interferon tau
CURRENT APPLICATION NUMBER: US/09/599,413

CURRENT FILING DATE: 200-06-22

PRIOR FILING DATE: 1999-06-22

NUMBER OF SEQ ID NOS: 20

SOFTWARE: PatentIn Ver. 2.1

SEQ ID NO 4

LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQGMGBEDSELGNMDPIVTV 120
                                                                                                       1 CYLSRKIMIDARENLKILDQMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKIMIDARRNIKULIDRMNRLSPHSCLQDRKDFGLPQGRWJEGDQLQKDQAFPVLYEM 60
                                                                              1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERLMIDARENLKILDRANRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                           0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                     121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
  Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 97.8%; Score 887; DB 4; Length 172; Best Local Similarity 97.7%; Pred. No. 4.2e-97; Matches 168; Conservative 1; Mismatches 3; Indels
                                         2; Indels
Query Match 97.9%; Score 888; DB 4; Best Local Similarity 97.7%; Pred. No. 3.2e-97; Matches 168; Conservative 2; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Search completed: October 28, 2005, 15:01:48 Job time : 25.5 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TYPE: PRT
; ORGANISM: ovine
US-09-599-413-4
                                                                                                                                                                                                                                                                                                                                                        RESULT 15
US-09-599-413-4
                                                                                                                      g
                                                                                                                                                                  ઠે
                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

FINE PACE DIANK (USPTO)

Bovine TP Bovine in Bovine IF CDNA clon A tau mod Human int

Aar24944 6 Aab31461 Aab311461 Aap311461 Aar24943 6 Ad24976 Ad24976 Ad24976 Ad24975 Ad24975 Ad7694975 Ad76969 Ad476604 Aaw76604 Aaw56435 Aaw56435 Adw56435 Ad

Peptide h Human NOV A tau mod Amino aci

Isoform o Sequence Ovi TP-1 Sheep IFN Human int

An ovine An ovine

```
This sheep IFN-tau protein is expressed in yeast, insect cells or E. coliusing expression vector phage lambda-gtil. The protein is useful for inhibitin tumor cell growth, for inhibiting viral replication in cells and enhancing fertility in female mammals. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Interferon tau compans - lacking cytotoxic side effects when used as antivirals, and anti:cellular proliferation agents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 100.0%; Score 907; DB 2; Length 172; Best Local Similarity 100.0%; Pred. No. 1e-92; Matches 172; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                      Sheep; interferon-tau; immunostimulant; antitumor; virucide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Van Heeke G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ott TL,
                                                                                                                                                                                                                ALIGNMENTS
                                                      AAR24943
AAB49784
ADF94976
ADS16363
AAB49783
AAB49783
                                                                                                                                                      ADJ55766
ADM76604
AAW70808
AAW56435
                                                                                                                                     AAW70809
ADG42697
        AAB31460
AAR24944
                                     AAB31463
AAP91396
                                                                                                                           AAR04539
                           AAB31461
                                                                                                                                                                                                                                                                                                                                      Sheep interferon-tau mature protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pontzer CH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 3; Page 90; 126pp; English.
                                                                                                                                                                                                                                                                  AARS4768 standard; protein; 172
                                                                                                                                                                                                                                                                                                                                                                                                                                      93WO-US010016
                                                                                                                                                                                                                                                                                                                                                                                                                                                        92US-00969890
                                                                                                                                                                                                                                                                                                         (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (WOME-) WOMEN'S RES INST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bazer FW, Johnson HM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UYFL ) UNIV FLORIDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1994-167468/20.
N-PSDB; AAQ64824.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-OCT-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                      19-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                               WO9410313-A2
                                                                                                                                                                                                                                                                                                        25-MAR-2003
01-DEC-1994
                                                                                                                                                                                                                                                                                                                                                                                                                  11-MAY-1994.
894
894
892
893
893
893
893
738
857
723
723
723
723
649
649
649
649
649
649
                                                                                                                                                                                                                                                                                     AAR54768;
                                                                                                                                                                                                                                               RESULT 1
AAR54768
                                                                                                                                                                                                                                                                             25° C (%)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Aar54768 Sheep int
Aaw31698 Mature ov
Aaw44110 Mature ov
Abb07588 Ovine int
Adi1857 Mature ov
Adm79177 Mature ov
Adm79173 Sheep int
Aar04540 Ovine tro
Aar04540 Ovine tro
Aar3445 Sequence
Aab31457 Amino aci
Aab31457 Amino aci
Aab31457 Amino aci
Aab31457 Anovine
Adm7318 Mature ov
Ads33614 Recombina
Adm7318 Mature ov
Ads33614 Recombina
Adm7318 Mature ov
Ads33614 Recombina
Adm33614 Recombina
Adm33614 Recombina
Aab31466 An ovine
Aab31466 An ovine
                                                                 October 28, 2005, 14:48:06; Search time 121 Seconds (without alignments) 549.775 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                          .....TVSTTLQKRLTKMGGDLNSP 172
         GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                             Total number of hits satisfying chosen parameters
                                                                                                                                                                            2105692 segs, 386760381 residues
                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                               protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB31457
AAO21461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABB07589
ADM79178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADS13614
AAB31462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB31459
AAB31467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABB07588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB31466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAB31464
                                                                                                                                              BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                          CYLSRKLMLDARENLKLLDR.
                                                                                                                                                                                                                                                                                               geneseqn19808:*
geneseqn20008:*
geneseqn20018:*
geneseqn20018:*
geneseqn2001as:*
geneseqn2001as:*
                                                                                                                                                                                                                                                                                     A Geneseq 16Dec04:*
                                                                                                                                                                                                                                                                                                                                                                    geneseqp2004в:*
                                                                                                                                                                                                                  length: 0
length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                       US-10-719-472-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
                                                                                                                                                                                                                  Minimum DB
Maximum DB
                                               protein
                                                                                                                           Sequence:
                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                       Database
                                                                  Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š.
```

ö

Gaps

ö

Imakawa K;

Š

~

```
Interferon-tau, ovine, human; auto immune disease, treatment; toxicity; IFN tau; multiple sclerosis; diabetes mellitus; asthma; allergy; cancer.
                                                                                                             Mature ovine interferon-tau (OvIFNtau) protein.
                                             AAW31698 standard; protein; 172
                                                                                                                                                                                                                                      12-MAR-1997;
                                                                                                                                                                                                                                                            15-MAR-1996;
                                                                                                                                                                                         WO9733607-A1
                                                                                        14-APR-1998
                                                                                                                                                                                                               18-SEP-1997.
                                                                                                                                                                    Ovis aries.
                                                                  AAW31698;
                                                                                                                                                                                                                                                                                                       Soos JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loca
Matches
                      RESULT 3
                                   AAW31698
                                                                  ö
                                           LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ๙
                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSRKIMIDARENLKILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVIYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tau interferon-contg. medicament - useful to treat auto:immune diseases, proliferative disorders, viral diseases or to enhance fertility in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ovine and human tau interferon may be used in medicaments to treat autoimmune disorders (e.g. multiple sclerosis or rheumatoid arthritis), proliferative disorder (e.g. cancer) or a viral disease (e.g. hepatitis B). It can also be used to enhance fertility in female mammals. The medicament is given orally or by injection. Ovine and human tau interferon sequences are given in AAT41504 to AAT41506
              CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAPPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTILQKRLIKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 907; DB 2; Length 172; larity 100.0%; Pred. No. 1e-92; Conservative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                          Tau interferon; ovine; bovine; autoimmune disease;
                                                                                                                                                                                                                                                                     proliferative disorder; viral disease; fertility.
                                                                                                                                                                                                                                                                                                                                                                                                                               Johnson HM;
                                                                                                                                                                  AAR99397 standard; protein; 172 AA
                                                                                                                                                                                                                                   Ovine tau interferon (synthetic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 5; Page 48; 65pp; English.
                                                                                                                                                                                                                                                                                                                                                            96WO-US003472
                                                                                                                                                                                                                                                                                                                                                                                  95US-00406190,
                                                                                                                                                                                                                                                                                                                                                                                                                               Soos JM, Schiffenbauer J,
                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                        (UYFL ) UNIV FLORIDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 1996-464609/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAT41504.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           female mammal
                                                                                                                                                                                                                                                                                                                                                            15-MAR-1996;
                                                                                                                                                                                                                                                                                                                                                                                  16-MAR-1995;
                                                                                                                                                                                                                                                                                                                 409628183-A1
                                                                                                                                                                                                               29-DEC-1996
                                                                                                                                                                                                                                                                                                                                       19-SEP-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             172;
                                                                                                                                                                                                                                                                                            Synthetic.
                                           61
                                                                                     121
                                                                                                                                                                                         AAR99397;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Loca
Matches
                                                                                                                                          AAR99397
                                                                                                                                                                              셤
                                                                                   ò
                                          ò
```

97WO-US003794 96US-00616904

```
mammalian diseases responsive to IFN tau. The new feature in the treatment of the human interferon-tau (IFN tau) can be used in the treatment is that IFN tau is administered orally. The method is used to treatment is that IFN tau is administered orally. The method is used to treat immune, particularly autoimmune disease, specifically multiple sclerosis (a preferred application, reducing both severity and frequency of relapses), type I diabetes mellitus, lupus erythematosus, amyotrophic lateral sclerosis, Crohn's disease, rheumatoid arthritis, stomatitis, cathma, allergies and psoriasis, particularly in humans or dogs. IFN tau is also useful for treating cancer (e.g. hairy cell leukaemia, Kaposi's sarcoma and multiple myeloma), cell proliferation and miliple myeloma), cell proliferation and miliple myeloma). It is also used for increasing fertility in deternal transmission). It is also used for increasing fertility in demandals (increasing life time of the corpus luteum). Oral administration is as effective as injection but is more convenient and generates a lower level of anti-IFN tau antibodies. Use of IFN tau avoids the toxicity associated with use of IFN alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGBEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LOOSFNIFYTEHSSAAWDTTLIEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKLMIDARENIKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This is a mature ovine interferon-tau (OvIFNtau) protein. The ovine and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                      Oral administration of interferon-tau for treatment of auto-immune disease - avoids toxicity of interferon alpha and generates fewer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KKYFQGIYDYLQBKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 907; DB 2; Length 172; 100.0%; Pred. No. 1e-92; tive 0; Mismatches 0; Indels C
                                                                                     Johnson HM;
                                                                                                                                                                                                                                                                                                                                                                            specific antibodies than injection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 5; Page 31; 48pp; English.
                                                                                 Schiffenbauer J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
(UYFL ) UNIV FLORIDA
                                                                                                                                                                   WPI; 1997-470642/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
les 172; Conserv
                                                                                                                                                                                                         N-PSDB; AAV02288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120

61

요 ò g ò

121

121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172

m

```
Hybrid nucleic acid encodes fusion of interferon-tau and other interferon - used to inhibit tumour and viral growth, and for treating auto-immune disease, less toxic than native type I interferon.
                                                                                Hybrid; fusion; interferon-tau; inhibit; tumour; viral growth; IFNt;
                                                                                                                                                                                                               Pontzer CH;
                                                                                                                                                                                                                                                                                          Disclosure; Page 83; 147pp; English.
                                                                                          autoimmune disease; immune response
                AAW44110 standard; protein; 172 AA.
                                                                                                                                                             97WO-US006114.
                                                                                                                                                                                                               Subramaniam PS,
                                                                                                                                                                             96US-00631328
                                                                 Mature ovine interferon tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 172, Conservative
                                                                                                                                                                                              (UYFL ) UNIV FLORIDA
                                                                                                                                                                                                                               WPI; 1997-526463/48.
N-PSDB; AAV02178.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 172 AA;
                                                                                                                           WO9739127-A1
                                                                                                                                                            11-APR-1997;
                                                                                                                                                                             12-APR-1996;
                                               16-JUN-1998
                                                                                                                                                                                                               Johnson HM,
                                                                                                                                            23-OCT-1997
                                                                                                           Ovis aries.
                                AAW44110;
RESULT 4
       AAW44110
```

ö LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120 present invention. The present invention describes a novel chimeric nucleic acid which comprises: (i) a 5'segment encoding the N-terminal amino acid (as) sequence of an interferon tau (IFNt) polypeptide; and (ii) a 3'-sequence encoding the C-terminal as sequence of a non-tau type I interferon, with the two segments spliced in a region comprising part of the mature interferon between residues 8 and 3' Hybrid interferon fusion polypeptides are used to inhibit tumour growth (e.g. of steroidsensitive tumours) and viral replication (e.g. of human immunodeficiency virus, hepatitis B or C virus, feline leukaemia virus) and to treat reducingment diseases (e.g. lupus erryhematosus, type I diabetes, rheumatoid arthritis). Some hybrid interferon fusion polypeptides may block the antiviral/antiproliferative actions of IFNt, so can be used to prevent immune responses induced by interferons. 9 9 transplantation. The hybrid interferon fusion polypeptides can also be used to raise antibodies, used e.g. for analysis of structure/function relationships. The novel chimeric nucleic acid is used to produce recombinant hybrid interferon fusion polypeptides. Hybrid interferon fusion polypeptides are less toxic than type I interferons, so can be administered at higher doses CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 0; Gaps The present sequence represents mature ovine interferon tau from the 100.0%; Score 907; DB 2; Length 172; 100.0%; Pred. No. 1e-92; Live 0; Mismatches 0; Indels

> ઠે g ò g

```
hepatitis C virus (HCV) in a HCV-infected patient. The composition comprises ovine interferon-tau (ovIFN-tau), in a dosage effective to stimulate bloodstream levels of 2.5'-ollogadenylate synthetase (OAS). The ovIFN-tau synthesizes OAS which degrades viral mRNA. A method is also provided for monitoring the treatment of HCV by oral administration of ovIFN-tau, by measuring the blood levels of OAS prior to and after such oral administration, and if necessary, adjusting the dose of IFN-tau until a measurable increase in blood OAS level, relative to the level observed prior to administration. The composition is useful for treating hepatitis caused by HCV and the method is useful for monitoring treatment of HCV by oral administration of ovIFN-tau. The present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                Hepatitis C virus; HCV infection; ovine; interferon-tau; ovIFN-tau; OAS;
2',5'-oligoadenylate synthetase; virucide; hepatotropic; IFN-tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oral-delivery composition for treating conditions relating to hepatitis caused by hepatitis C virus, comprises ovine interferon-tau which stimulates bloodstream levels of 2',5'-oligoadenylate synthetase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention provides an oral-delivery composition for use in treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CYLSRKIMIDARENLKLIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 907; DB 5; Length 172; ilarity 100.0%; Pred. No. 1e-92; Conservative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    represents an ovine interferon-tau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 1; Page 32-33; 33pp; English.
                                                                                                           ABB07588 standard; protein; 172 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-JUL-2000; 2000US-0219128P.
17-OCT-2000; 2000JP-00317160.
                                                                                                                                                                                                                          Ovine interferon-tau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                          19-JUL-2001; 2001WO-US022976
                                                                                                                                                                                   08-MAY-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-179784/23.
N-PSDB; ABA94936.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (PEPG-) PEPGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
hes 172; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sokawa Y, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                               WO200206343-A2.
                                                                                                                                                                                                                                                                                                                                                                                                      24-JAN-2002
                                                                                                                                                                                                                                                                                                                             Ovis aries.
                                                                                                                                               ABB07588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Si
Matches 172,
              g
                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
```

LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120

61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGBEDSELGNMDPIVTV

셤

ò

셤

ò

121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172 KKYFQGIYDYLQEKGYSDCAWEIURVEMMRALTVSTTLQKRLTKMGGDLNSP 172

Ą

ADM79177 standard; protein; 172

ADM79177

ADM79177;

1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60

```
2',5'-oligoadenylate synthetesse; OAS; autoimmune condition; multiple sclerosis; diabetes mellitus; Hashimoto's thyroiditis; meltiple sclerosis; diabetes mellitus; Hashimoto's thyroiditis; allergy; asthma; eczema; Crohn's disease; ulcerative colitis; viral infection; HIV infection; hepatitis; cellular proliferation disorder; multiple myeloma; ovarian cancer; hasiv cell leukaemia; inflammatory; disease; immunosuppressive; virucide; cytostatic; antiinflammatory; neuroprotective; antidiabetic; thyromimetic; antirheumatic; antiarthritic; ophthalmological; antiplecriatic; dermatological; antiallergic; antiasthmatic; antiulcer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                An oral dosage form of interferon-tau administered to a subject in a fasted state to achieve an increased level of 2',5'-oligoadenylate synthetase, useful for treating a condition responsive to interferon-tau,
                                                                                                                                    form; oral administration; fasted state;
                                                                                                                                                                                                                                                                                        anti-HIV; hepatotropic; vaccine; ovine; sheep.
                                                                                                         Mature ovine interferon-tau, SEQ ID NO:2.
                         ADI17857 standard; protein; 172 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                          16-JAN-2002; 2002US-0349658P.
                                                                                                                                                                                                                                                                                                                                                                                                                16-JAN-2003; 2003WO-US001596.
                                                                                                                                    Interferon-tau; oral dosage
                                                                              (first entry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             e.g. viral infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (PEPG-) PEPGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-598711/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sokawa Y, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; ADI17856.
                                                                                                                                                                                                                                                                                                                                                          WO2003061728-A2
                                                                              22-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                     31-JUL-2003
                                                                                                                                                                                                                                                                                                                  Ovis aries.
                                                                                                                                                                                                                                                                                                                                 Synthetic.
                                                    ADI17857;
RESULT 6
ADI17857
```

Claim 3; SEQ ID NO 2; 28pp; English.

The invention relates to a composition for use in treating a condition responsive to interferon-tau, comprising an oral dosage form of inteferontau. The composition is administered to a patient in a fasted state to increase the level of 2',5'-oligoadenylate synthetase (OAS) in the blood relative to that obtained after administration of interferon-tau to a fed patient. The interferon-tau used in the composition is preferably ovine or bovine. The composition is useful in the treatment of autoimmune thyroidities, rematoid arthritis, workingly psoriasis, systemic lupus erythematosus, allergies, asthma, eczema, Crohn's disease or ulcerative colitis), viral infections (e.g., HIV infection or hepatitis), disorders associated with cellular proliferation (e.g., multiple myeloma, ovarian cancer or hairy cell leukaemia), or inflammatory diseases. The present sequence represents mature ovine interferon-tau.

Sequence 172 AA;

Matches 172; Conservative

Similarity

Query Match Best Local S

```
1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
```

100.0%; Score 907; DB 7; Length 172; 100.0%; Pred. No. 1e-92; ive 0; Mismatches 0; Indels (

g ò

ö

. 0

```
The present invention describes a composition for the oral administration of an interferon (IFN) comprising an IFN and a species that stabilises the IFN in an active form by interaction between the IFN and the species. Also described: (1) preparing a protein for oral administration, comprising formulating a protein for oral administration, comprising formulating interaction between the protein and the species, therefore the formulating results in a composition for oral administration, and (2) selecting a dosage form composition for a protein administration, comprising selecting a protein for formulating results and activity upon in vivo administration, comprising selecting a protein for formulation, preparing solutions of the selected protein or polypeptide in different buffers at the protein's tertiary structure, where the measuring identifies buffers that result retention of the protein's tertiary structure. The composition and polypeptides. The present sequence represents the mature ovine interferon tau amino acid sequence, which is used in an example from the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (IFN) comprises an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CYLSRKLMLDARENLKLLDRANRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                           oral administration; interferon; IFN; ovine; mature interferon tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 907; DB 8; Length 172; 100.0%; Pred. No. 1e-92; ive 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A composition for oral administration of an interferon IFN and a species that stabilizes the IFN in an active interaction between the interferon and the species.
                                                                             Mature ovine interferon tau protein SEQ ID NO:1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example; SEQ ID NO 1; S2pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08-OCT-2003; 2003WO-US031999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-OCT-2002; 2002US-0417292P.
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Manning MC, Nayar R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2004-340799/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (PEPG-) PEPGEN CORP.
                                                                                                                                                                                                                                                                                                                       WO2004032863-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 172 AA;
    15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                     22-APR-2004
                                                                                                                                                                                                                                     Ovis aries.
```

S

100.08;

Best Local Similarity

```
The invention describes a method of treating a condition in a human administering interferon tau therapy comprises orally administering interferon—tau to the intesfinal tract of the subject to produce an initial measurable increase in the subject's blood 2',5'-oligoadenylate synthetase (OAS) level, relative to the blood OAS level in the subject in the absence of interferon—tau administration. The method is useful for treating an autoimmune condition, cancer, or a viral infection. The method is particularly useful for treating multiple srolerosis or hepatitis C infection, diabetes mellitus, systemic lupus ertyhematosus, amyotrophic lateral sclerosis, Crohn's disease, rheumatoid arthritis, asthma, uveitis, psoriasis, and hypersensitivity disorders. This is the amino acid sequence of ovine interferon—tau.
                                                                                                                                                                                                                                                                                                                                  immunosuppressive, cytostatic, virucide, neuroprotective, antidiabetic, muscular, antiniflammatory, antirheumatic, antiarthritic, antiasthmatic, dermarological, vaccine, interferon tau, 2',5'-oligoadenylate synthetase, OAS; autoimmune condition, cancer, viral infection; multiple sclerosis; hepatitis C infection; diabetes mellitus, systemic lupus erythematosus, amyotrophic lateral sclerosis; Crohn's disease; rheumatoid arthritis;
 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Treating a condition in a subject, e.g. autoimmune condition, cancer or viral infection, comprises orally administering interferon-tau to the intestinal tract to increase the blood 2'5'-oligoadenylate synthetase
 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDP1VTV
                    asthma; uveitis; psoriasis; hypersensitivity disorder; sheep
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 2; SEQ ID NO 2; 38pp; English.
                                                                                                                                                                                            Ā
                                                                                                                                                                                           ADS13613 standard; protein; 172
                                                                                                                                                                                                                                                                                                    Sheep interferon tau segid 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUL-2001; 2001US-00910406.
16-JAN-2002; 2002US-0349658P.
16-JAN-2003; 2003US-00346269.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21-NOV-2003; 2003US-00719472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-JUL-2000; 2000US-0219128P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-OCT-2003; 2003US-00698927
                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2004-698654/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sokawa Y, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SOKA/) SOKAWA Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; ADS13612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US2004191217-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 172 AA;
                                                                                                                                                                                                                                                                 16-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-SEP-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ovis aries
                                                                                                                                                                                                                              ADS13613;
61
                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LIUC/)
                                                                                                                                                                          ADS13613
                                                                                                                                                                                                             셤
                                                                  ò
                                                                                                g
```

100.0%; Score 907; DB 8; Length 172;

Query Match

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                            61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                       61 LOOSFNLFYTEHSSAAWDITTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           143
                                                     9
                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Recombinant bovine trophoblast protein-1 - used for enhancing fertility
                                            1 CYLSRKIMIDARENIKILIDRMNRISPHSCLQDRKDFGIPQEMVEGDQLQKDQAFPVLYEM
                                                                     1 CYLSRKI,MIDARENI,KILDRMNRI,SPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVI,YEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   84 IQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 CYLSRKIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The bTP-1 produced from the gene may be used to promote fertility or treat viral disease in cattle. The gene may also be used to provide transgenic animals with enhanced fertility, or in prophylactic and therapuetic treatment of other mammals. (Updated on 25-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                              121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                           ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .;
0
                                                                                                                                                                             KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
Pred. No. 1e-92;
                                                                                                                                                                                                                                                                                                                                                                                       Bovine trophoblast protein-1; bTP-1; fertility; ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or treating viral diseases in mammal, esp. cattle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 907; DB 2; 100.0%; Pred. No. 1.2e-92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                             Ovine trophoblast protein-1 (oTP-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page ?; 27pp; English.
                         0
                                                                                                                                                                                                                                                              AAR04540 standard; protein; 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89EP-00119642.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88US-00262870
                                                                                                                                                                                                                                                                                                                                   (first entry)
                         Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roberts MR, Imakawa K;
                                                                                                                                                                                                                                                                                                                    (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1990-141062/19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; AAQ04289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-OCT-1989;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-OCT-1988;
                                                                                                                                                                                                                                                                                                                   25-MAR-2003
17-SEP-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-MAY-1990
                                                                                                                                                                                                                                                                                                                                                                                                                    Sus scrofa.
                                                                                                                                                                                                                                                                                                                                                                                                                                            EP367063-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                         AAR04540;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                    RESULT 9
                                                                                                                                                                                                                                               AAR04540
                                                                                                                                                                                                                                                                           à
                                                                             g
                                                                                                         ò
                                                                                                                                   g
                                                                                                                                                                à
                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
Unidentified
                                                                                                                                                                                                      Manning MC,
                            15-JUL-2004
                                                                                                                           22-APR-2004
          ADM79195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR24942
ID AAR2
XX
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                 This conceptus-derived ovine trophoblast protein-1 (oTP-1) is used in a compsn. for inhibiting tumour growth or viral replic- ation. It is an interferon and exerts its inhibitory effect on viruses , retroviruses and tumours without harming the cells of the host animal. Its fragments (indicated in features), or immunologically equivalent variants can also be used. (Updated on 25-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                  Non-cytotoxic inhibition of viruses and tumours - using conceptus-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVWGEEDSELGNMDP1VTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CYLSRKLMIDARENLKILIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQXDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.8%; Score 905; DB 2; Length 17
99.4%; Pred. No. 1.7e-92;
ive 1; Mismatches 0; Indels
                                                                                                                                   interferon; tumour; virus; retrovirus; cancer; AIDS
                                                                                                                                                                           cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
ADM79195
ID ADM79195 standard; protein; 172 AA.
                                             AAR09294 standard; protein; 172 AA
                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 1; 20pp; English
                                                                                                                                                                                                                                                                                                       89US-00318050.
                                                                                                                                                                                                                                                                                    89US-00318050
                                                                                                                 Ovine trophoblast protein-1.
                                                                                                                                                                                                                                                                                                                                                                                           ovine trophoblast protein-1
                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 171; Conservative
                                                                                                                                                                                   18. .53
68. .76
88. .114
130. .13
159. .17
                                                                                      (revised)
                                                                                                                                                                                                                                                                                                                                             Johnson HM;
                                                                                                                                                                                                                                                                                                                         (UYFL ) UNIV FLORIDA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                WPI; 1990-290161/38.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 172 AA;
                                                                                                                                                                                                                                                                                    02-MAR-1989;
                                                                                                                                                                                                                                                                                                       02-MAR-1989;
                                                                                    25-MAR-2003
22-JAN-1991
                                                                                                                                                                                                                                             409009806-A
                                                                                                                                                                                                                                                                07-SEP-1990
                                                                                                                                                       Ovis aries
                                                                                                                                                                                                                                                                                                                                             Bazer FW,
                                                                  AAR09294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                   Peptide
Peptide
Peptide
Peptide
                            RESULT 10
                                   AAR09294
                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
The present invention describes a composition for the oral administration of an interferon (IFN) comprising an IFN and a species that stabilises the IFN in an active form by interaction between the IFN and the species. Also described: (1) preparing a protein for oral administration, comprising formulating the protein with a species that stabilises the protein with a species that stabilises the comprising formulating the protein with a species that stabilises the composition; and (2) selecting a dosage form composition for a protein and that species, therefore the formulating results in a composition for oral administration, and (2) selecting a dosage form composition for a protein that achieves protein stabilisation for biological activity upon in vivo administration, comprising selecting a protein for formulation, preparing solutions of the selected protein or polypeptide in different buffers at different ph values, and measuring the effect of the buffer on the protein's tertiary structure. The composition and methods are useful for preparing oral dosage forms for administration of the protein's tertiary structure. The composition and methods are useful for preparing oral dosage forms for administration of the protein's tertiary structure. The composition and polypeptides. The present sequence represents an interferon can amino acid sequence, which is used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (IFN) comprises an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSRKLMIDARENLKIIDRMNRISPHSCLQDRKDFGIPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A composition for oral administration of an interferon (IFN) or IFN and a species that stabilizes the IFN in an active form by interaction between the interferon and the species.
                                                                            oral administration; interferon; IFN; mature interferon tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 905; DB 8;
Pred. No. 1.7e-92;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAR24942 standard; protein; 195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Fig 1A; 52pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-OCT-2002; 2002US-0417292P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                         08-OCT-2003; 2003WO-US031999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 99.4
Matches 171; Conservative
Interferon tau protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2004-340799/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (PEPG-) PEPGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 172 AA;
                                                                                                                                                                                                                                        WO2004032863-A2
```

```
임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                      The DNA sequence encoding the precursor of ovine trophoblastin was disclosed in PCT WO 89/08706 (see AAR2491). AAR24942-R24945 are isoforms of trophoblastin. They have anti-luteolytic activity and are used to improve burvival of transplanted embryos; as a reagent for detecting viability of embryos at an early stage of its development; and to improve the fertility of livestock. (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                              New type I interferon variants with added N-terminal di:peptide - include expression cassettes providing high yield in yeast, esp. trophoblast derivs. with e.g. anti-luteolytic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CYLSRKCIMLDARENLKLI.DRWNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                               Charpigny G, Reinaud P;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Gaps
                                                                Antiviral; antiinflammatory; antitumour; immunomodulator; immunogen; trophoblastin; antiluteolytic agent.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Amino acid sequence of an ovine interferon-tau 1mod polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 99.7%; Score 904; DB 2; Length 19
Best Local Similarity 99.4%; Pred. No. 2.7e-92;
Matches 171; Conservative 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                              Charlier M,
                                               ovien trophoblastin variant Xa
                                                                                                                                                                                                                                            (INRG ) INRA INST NAT RECH AGRONOMIQUE.
                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB31457 standard; protein; 172
                                                                                                                                                                                                                                                               Gaye P,
                                                                                                                                                                                                                                                                                                                                                    Claim 7; Page 30; 53pp; French

    .23
    /label= signal

                                                                                                                                                                                            91WO-FR000953.
                                                                                                                                                                                                                90FR-00014945.
90FR-00014946.
                  (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                               Degryse E,
                                                                                                                                                                                                                                                                                           WPI; 1992-217070/26.
                                                                                             Ammotragus lervia.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 195 AA;
                                                                                                                                                                                           29-NOV-1991;
                                                                                                                                                      WO9209691-A1
                                                                                                                                                                                                                29-NOV-1990;
                                                                                                                                                                                                                        29-NOV-1990;
                           03-JAN-1992
                  25-MAR-2003
                                               Sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-APR-2001
                                                                                                                                                                        11-JUN-1992
                                                                                                                                                                                                                                                                         Chaouat G;
                                                                                                                                                                                                                                                               Martal J,
AAR24942;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB31457
                                                                                                                         Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
AAB31457
BXAXAXB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              원
```

```
The present sequence represents an ovine interferon-tau Imod polypeptide.

The specification describes a method of making recombinant interferon

(IFN)-tau proteins, which differ from wild-type IFN-tau by amino acid
substitutions near the amino terminus of the molecule. The mutated IFN-

tau proteins have improved biological activity, low toxicity, retain the

same or slightly reduced antiviral activity compared with interferon

capha, and have enhanced antiproliferative activity compared to wild-type

IFN-tau. The method is used for producing IFN-tau proteins with improved

cological activities and properties. These IFN-tau may be administered

cological activities and properties. These IFN-tau may be administered

cological activities and properties. These IFN-tau proteins with improved

cological activities and properties. These IFN-tau may be administered

cological activities and properties. These IFN-tau proteins with improved

cological activities and properties. These IFN-tau proteins with improved

colorects and decrease tumour growth, treat viral diseases, treat

autoimmune diseases and treat multiple sclerosis. The cancer or tumour is

calcuted from the group comprising human adenocarcinoma, breast cancer,

colorectal cancer, glioblastomas, melanomas, myelomas,

colorectal cancer, skin cancer, bander cancer, bone cancer,

colorectal cancer, cervical and oral dysplasia. The autoimmune disease is

colorectal from Type I diabetes mellitus, rheumatoid arthritis, lupus

cerythematosus and/or psoriasis. The viral infection is an RNA virus, a

human immuno deficiency virus (HIV) or hepatitis C virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOOSFNLFYTEHSSAAWDITLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 LÓOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGOGMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
Interferon-tau; IFN-tau; cancer; tumour growth; viral disease; autoimmune disease; multiple sclerosis; adenocarcinoma; breast cancer; prostate cancer; glioblastoma; melanoma; myeloma; lymphoma; leukaemia; lung cancer; skin cancer; bladder cancer; kidney cancer; brain cancer; ovarian cancer; bancreatic cancer; uterine cancer; bone cancer; colorectal cancer; acurroectodermal cancer; psoriasis; monoclonal gammapothy; dysplasia; diabetes mellitus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Producing recombinant interferon tau analog proteins with improved properties, useful for treating cancers, autoimmune diseases and viral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKIMIDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEWMRALIVSTTLQKRLIKWGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 900; DB 4;
Pred. No. 6.3e-92;
0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 5; Page 59-60; 70pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Clark CD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UYMA-) UNIV MARYLAND BALTIMORE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-JUN-2000; 2000WO-IB001080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0140411P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shorts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI: 2001-071357/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 171; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N-PSDB; AAF24827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 172 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200078266-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pontzer CH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                       Ovis sp.
```

us-10-719-472-2.rag

```
The invention relates to an artificial ovine interferon-tau (OVIFN-tau) gene designed for high yield protein production in yeast, and constructed by reducing repetitive sequences, lowering overall G+C content, reducing or eliminating palindromic sequences, and optimising the sequence of OVIFN-tau, using the biased codon usage in the yeast. The expression vector if the invention is useful for high yield production of OVIFN-tau in the yeast of Pichia, preferably P. pastoris X33 or P. pastoris GS115, by transforming the yeast with the expression vector, inducing protein expression with methanol, culturing the yeast in defined culture conditions such as shake flask or fermenter, and purifying the protein from culture media. This sequence represents the ovine interferon-tau (OvIFN-tau) protein of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New artificial ovine interferon-tau gene, useful for high protein production, constructed by reducing repetitive and palindromic sequences, lowering overall guanine and cytosine content and optimizing gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQGMGEEDSELGNMDPIVIV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSRKIALDARENLKULDRANRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                              Artificial ovine interferon-tau; OvIFN-tau; optimising; biased codon;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KKYFQGIYDYLQEKGYSDCAWEIURVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.2%; Score 900; DB 5; Length 172; 99.4%; Pred. No. 6.3e-92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                          Ovine interferon-tau (OvIFN-tau) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Johnson H;
               AAO21461 standard; protein; 172 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Fig 1A; 71pp; English
                                                                                                                                                                                                                                                                                                                                                  12-OCT-2001; 2001WO-US031862.
                                                                                                                                                                                                                                                                                                                                                                                   L2-OCT-2000; 2000US-0239746P
                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            171; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                           R, Rodriguez E,
                                                                                                                                                                               high yield production.
                                                                                                                                                                                                                                                                                                                                                                                                                       (UABR-) UAB RES FOUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-426289/45.
N-PSDB; AAL38060.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 172 AA;
                                                                                                                                                                                                                                                                         WO200231178-A1
                                                                                       15-AUG-2002
                                                                                                                                                                                                                    Ovis aries.
                                                                                                                                                                                                                                     Synthetic.
                                                     AA021461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Krishna
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
AAO21461
                                                   엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
```

```
The invention provides an oral-delivery composition for use in treating hepatitis C virus (HCV) in a HCV-infected patient. The composition comprises ovine interferon-tau (ovIFN-tau), in a dosage effective to stimulate bloodstream levels of 2',5'-oligoadenylate synthetase (OAS). The ovIFN-tau synthesizes OAS which degrades viral mRNA. A method is also provided for monitoring the treatment of HCV by oral administration of ovIFN-tau, by measuring the blood levels of OAS prior to and after such oral administration, and if necessary, adjusting the dose of IFN-tau until a measurable increase in blood OAS level, relative to the level observed prior to administration. The composition is useful for treating hepatitis caused by HCV and the method is useful for monitoring treatment of HCV by oral administration of ovIFN-tau. The present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                     Hepatitis C virus; HCV infection; ovine; interferon-tau; ovIFN-tau; OAS;
2',5'-oligoadenylate synthetase; virucide; hepatotropic; IFN-tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oral-delivery composition for treating conditions relating to hepatitis caused by hepatitis C virus, comprises ovine interferon-tau which stimulates bloodstream levels of 2',5'-oligoadenylate synthetase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          represents a recombinant ovine interferon-tau protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99.1%; Score 899; DB 5; 98.8%; Pred. No. 8.1e-92;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1; Mismatches
                                                                                     ovine interferon-tau protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 1; Page 33; 33pp; English
                                                                                                                                                                                                                                                                                19-JUL-2001; 2001WO-US022976.
                                                                                                                                                                                                                                                                                                                 19-JUL-2000; 2000US-0219128P.
                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 98.8 Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2002-179784/23.
                                                                                                                                                                                                                                                                                                                                                                       (PEPG-) PEPGEN CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                         Sokawa Y, Liu C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; ABA94937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 172 AA;
                                                                                                                                                                                                           WO200206343-A2.
                                                  08-MAY-2002
                                                                                     Recombinant
                                                                                                                                                                                                                                              24-JAN-2002
                                                                                                                                                                         Ovis aries,
                ABB07589;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

Search completed: October 28, 2005, 14:56:01 Job time : 124 secs

ABB07589 standard; protein; 172 AA

RESULT 15 ABB07589 ID ABB0

ö

```
GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd.
```

OM protein - protein search, using sw model

Run on:

October 28, 2005, 14:51:03 ; Search time 25 Seconds (without alignments) 661.971 Million cell updates/sec

US-10-719-472-2 907 1 CYLSRKLMLDARENLKLLDR.....TVSTTLQKRLTKMGGDLNSP 172

Title: Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

Total number of hits satisfying chosen parameters:

283416 segs, 96216763 residues

Searched:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

		dр			SUMMARIES		
Result No.	Score	Query Match	Length	DB	ID	Description	
	897	98.9	195	~	JS0204	trophoblast interf	erf
~	880	97.0	-	N	147068	trophoblast protei	otei
m	868	95.7	7	~	147066		otei
4	865	95.4	195	0	147069		otei
2	847	93.4	172	N	A61578		otei
9	846	93.3	195	~	146272		erf
7	842	92.8	195	~	A61455	trophoblast protei	otei
80	908	88.9	195	N	147067		otei
0	778	85.8	195	~	147097		otei
10	745	82.1	184	~	147098		otei
11	724	79.8	195	N	A39505		erf
12	723	79.7	195	N	823751		erf
13	720	79.4	195	~	A40068		otei
14	720	79.4	195	N	B39505		otei
15	609	67.1	195	~	A53746		ohdo
. 16	608	67.0	195	0	A61403	æ	a-I
17	587	64.7	195	~	147070	interferon omega	- ag
18	585	64.5	195	N	146397	interferon alpha	a.
19	582	64.2	195	Н	IVBOII	interferon alpha-1	la-I
20	513.5	9.95	190	N	S23711		l-at
21	499	55.0	195	-	IVH022	interferon alpha-I	la-I
22	497	54.8	110	~	B61578	₽	itei
23	488.5	53.9	190	~	S23712	interferon alpha-I	la-I
24	473	52.1	195	Н	IVHUII	interferon omega-	ja-1
25	469.5	51.8	179	~	S23710	interferon alpha-I	la-I
26	454	50.1	189	~	151970	interferon precurs	urs
27	446	٠	176	~	156314	interferon-alpha	la -
28	444	49.0	195	Н	IVHO21	interferon alpha	la-I
59	440	48.5	189	7	IVHU14	interferon alpha	ıa-I

-	σ	interferon alpha-G	interferon alpha -	interferon alpha-I	interferon alpha-5	interferon alpha-1	interferon-omega20	interferon-omega44	interferon alpha-M	interferon-omega45	interferon type I	interferon alpha 2	interferon-alpha-F	interferon alpha-F	interferon alpha-I
IVHUA7	LVHOAV	D25843	146398	IVHU4B	IVHUAS	IVHUA1	I46975	146972	152347	146974	S70011	156313	I84464	E25843	IVHUF
۲.	٠,	0	~	٦		~	~	~	~	7	~	~	~	~	н
189	87	167	195	189	189	189	195	195	189	195	195	181	189	167	189
48.5	ים י	47.5	47.5	47.3	47.3	47.2	47.1	47.0	46.9	46.7	46.6	46.4	46.4	46.2	46.2
	0	431	431	429	429	428	427	426	425	424	423	421	421	419	419
440	7														

ALIGNMENTS

9 83 ĭ

ö

Gaps

..

9

```
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-195 <NEP>
A;Cross-references: UNIPROT:Q08070; GB:M88773; NID:g4416522; PIDN:AAA31503.1; PID:g165821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A,Cross-references: UNIPROT:Q08072; GB:M88772; NID:g165826; PIDN:AAA31506.1; PID:g165827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    trophoblast protein-1 - sheep
C.Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C.Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
C.Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
C.Accession: 147066
R.Machew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.
Biol. Reprod. 48, 768-778, 1993
A.Title: Differential expression of distinct mRNAs for ovine trophoblast protein-1 and A.Maccession: 146397; WUID:93250155; PMID:8485241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ovine trophoblast protein-1 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LQQTFNLFHTEHSSAAWDTTLLEQLCTGLQQQLEDLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24 CYLSQRLMLDARENLKLLEPWNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CYLSRKLMIDARENLKILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
                                                                 CYLSRRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                  LOOSFNLFYTEHSSAAWDTTLLEOLCTGLOOOLDHLDTCRGOVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                             LÓÓSFNLFYTEHSSAAWDTTLLEQLCTGLOQOLDHLDTCRGOVMGEKDSELGKMDPIVTV
                               CYLSRKIMIDARENLKILDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                               KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                     144 KKYFQGIHDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C; Accession: I47069
R; Nephew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.Biol. Reprod. 48, 768-778, 1993
A; Title: Differential expression of distinct mRNAs for ovine A; Reference number: I46397; MUID: 93250155; PMID: 8485241
A; Accession: I47069
A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.7%; Score 868; DB 2; L
95.3%; Pred. No. 3.1e-72;
tive 6; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.4%; Score 865; DB 2; L 94.8%; Pred. No. 5.8e-72; live 6; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 164; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 163; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Residues: 1-195 < NEP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A, Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TP-010
                                                                                                24
                                                                                                                                                               61
                                                                                                                                                                                                                                 84
                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TP-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Genetics:
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                   q
                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
A;Cross-references: GB:Y00287; NID:g1357; PIDN:CAA68396.1; PID:g1358
R;Charpigny, G.; Reinaud, P.; Huet, J.C.; Guillomot, M.; Charlier, M.; Pernollet, J.C.; FEBS Lett. 228, 12-16, 1988
A;Title: High homology between a trophoblastic protein (trophoblastin) isolated from ovi A;Reference number: S00306; MUID:88137579; PMID:3254170
A;Accession: S00306
A;MUID:88137579; PMID:3254170
A;Accession: S00306
A;Accession: S00306
A;Accession: S00306
A;Accession: A;Residues: 24-68
CGHG>
R;Stewart, H.J; McCann, S.H.E.; Barker, P.J.; Lee, K.E.; Lamming, G.E.; Flint, A.D.F.
J; Endocrinol. 115, R13-R15, 1387
A;Title: Interferon sequence homology and receptor binding activity of ovine trophoblast A;Reference number: A60857
A;Title: Interferon sequence homology and receptor binding activity of ovine trophoblast A;Recession: A60857
A;Molecule type: protein
A;Residues: 'X', 25-47, 'X', 49-51,'D',53,'WOYXG',59,'XG',62-63 <572>
R;Roberts, R.M.; Imakawa, K.; Niwano, Y.; Kazemi, M.; Malathy, P.V.; Hansen, T.R.; Glass J;Title: Interferon production by the preimplantation sheep embryo.
A;Title: Interferon production by the preimplantation sheep embryo.
A;Acference number: A60936; MUID:89235312; PMID:2469745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: UNIPROT:Q08071; GB:M88771; NID:g165824; PIDN:AAA31505.1; PID:g165825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: protein A; Molecule type: protein A; Molecule type: protein A; Residues: 'S', 25-27, ET', 30-36,'R', 38-44,'E', 46-47 <ROB> A; Note: 29-Arg and 37-Asn were also found C; Comment: This protein is one of the major secretory proteins synthesized in vitro by C; Comment: This protein prevents regression of the corpus luteum. C; Comment: Southern blotting reported in reference A61403 suggests there are at least f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 trophoblast protein-1 - sheep
C;Species: Ovis oxientalis aries, Ovis ammon aries (domestic sheep)
C;Species: Ovis oxientalis aries, Ovis ammon aries (domestic sheep)
C;Species: 147068
R;Nephew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.
Biol. Reprod. 48, 768-778, 1993
A;Title: Differential expression of distinct mRNAs for ovine trophoblast protein-1 and A;Reference number: 146397; MUID:93250155; PMID:8485241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLOQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84 LQQSFNLFYTEHSSAAMDTTLLDQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24 CYLSQRLMLDARENLKLIDRWNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Gene: OTP (TP-1)
C;Superfamily: interferon alpha
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-195/Product: trophoblast interferon alpha #status experimental <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144 KKYFQGIYDYLQEKGYSDCAWEIURVEMMRALIVSTTLQKRLIKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 97.0%; Score 880; DB 2; Length 195; Best Local Similarity 96.5%; Pred. No. 2.4e-73; Matches 166; Conservative 4; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 897; DB 2; Length 19
Pred. No. 6.8e-75;
3; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 98.9%;
Best Local Similarity 98.3%;
Matches 169; Conservative 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: DNA
A; Residues: 1-195 <NEP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pha-interferons.
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

ř

ö

Gaps

; 0

```
A;Scatus: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-195 <MBE>
A;Cross-references: UNIPROT:Q08053; GB:M88770; NID:g165822; PIDN:AAA31504.1; PID:g165823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
C;Accession: 147067
R;Nephew, K.P.; Whaley, A.E.; Christenson, R.K.; Imakawa, K.
Biol. Reprod. 48, 768-778, 1993
Biol. Reprod. 48, 768-778, 1993
A;Title: Differential expression of distinct mRNAs for ovine trophoblast protein-1 and A;Reference number: 146397; MUID:91250155; PMID:8485241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Χ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      trophoblast protein 1 precursor - sheep
NyAlternate names: interferon
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: 15-Oct-1994 #sequence_revision 15-Oct-1994 #text_change 09-Jul-2004
C;Accession: A61455; S12624
S;Roberts, R.M.; Cross, J.C.; Farin, C.E.; Hansen, T.R.; Klemann, S.W.; Imakawa, J. Reprord: Pertil. Suppl. 41, 63-74, 1990
A;Title: Interferons at the placental interface.
A;Reference number: A61455
A;Accession: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
         120
                                                              84 LQQSFNLFYTEHSSAAWDTTLLDQLCTGLQQQLDHLDTCRGQVMGEKDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 LOOSFNLFYTEHSSAAMDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                84 LQQSFNVFHTERSSAAMNTTLLEQLCTGLQQQLDHLDTCRGPVMGEKDSELGRMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:X56343; NID:g1155013; PIDN:CAA39783.1; PID:g1155014
    LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 CYLSRKIMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CYLSRKIMLDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                           144 KKYFQGIYYYLQEKGYSDCAWETVRVEMMRALTASTTLQKRLTKTGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Klemann, S.W.; Imakawa, K.; Roberts, R.M.
Nucleic Acids Res. 18, 6724, 1990
A;Title: Sequence variability among ovine trophoblast interferon cDNA.
A;Reference number: $12624; MUID:91067497; PMID:1701245
A;Accession: $12624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92.8%; Score 842; DB 2; Length 195; 93.0%; Pred. No. 7.4e-70; Artive 6; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A, Experimental source: clone oTP-1 p6
C, Superfamily: interferon alpha
F;1-23/Domain: signal sequence #status predicted <SIG>
F;24-195/Product: trophoblast protein 1 #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A Residues: 1-195 <ROB>
A Cross-references: UNIPROT: 029429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 93.0°
Matches 160; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-195 < KLE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Gene: TP-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C, Genetica
                                                                                           g
                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        trophoblast interferon - goat
C;Species: Capra aegagrus hircus (domestic goat)
C;Species: Capra aegagrus hircus (domestic goat)
C;Species: 21-Reb-1997 #sequence_revision 21-Reb-1997 #text_change 09-Jul-2004
C;Accession: 146272
R;Leaman, D.W.; Roberts, R.M.
J; Interferon Res. 12, 1-11, 1992
A;Title: Genes for the trophoblast interferons in sheep, goat, and musk ox and distribut A;Reference number: 146272; MuID:92242337; PMID:1374107
A;Accession: 146272
A;Accessio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                84 LQQSFNLFYTEHSSAAWDTTLLDQLCTGLQQQLEDLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 LQQSFNVFHTBHSSAAWNTTLLEQLCTGLQQQLDHLDTCKGPVMGEKDSELGKMDPIVTV 120
24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEDQAEPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24 CYLSRRLMLDARENLRLLDRMNRLSPHSCQQDRKDFGLPQEMVEGDQLQKDQASCVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cippediast protein 1 (clone SPW49) - sheep (fragment)
Cippedias: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
Cipate: 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change 17-Mar-1999
CiAccession: A61578
R:Watkins, S.P.; Jeacock, M.K.; Savva, D.; Shepherd, D.A.L.
Int. J. Biochem. 23, 1013-1018, 1991
A;Title: Ovine trophoblast protein-one: evidence for possible glycosylation.
A;Reference number: A61578; MUID:92155417; PMID:1786844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CYLSRKLMLDARENIRLIDRMNRLSPHSCLODRKDFGLPQEMVEGDQLQXDQAFSVLYEM
                                                                                                                                      61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKLMIDARENLKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                            144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALISSTTLQKRLTKTGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Accession: A61578
A;Molecule type: mRNA
A;Residues: 1-172 <WAT>
C;Superfamily: interferon alpha
C;Keywords: glycoprotein; pregnancy maintenance
F;78/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93.4%; Score 847; DB 2; Length 17
93.0%; Pred. No. 2.2e-70;
ive 7; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 93.3%; Score 846; DB 2; Length 19
Best Local Similarity 93.6%; Pred. No. 3.2e-70;
Matches 161; Conservative 4; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 93.03
Matches 160; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gene: cTP-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C, Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ហ
                                                유
                                                                                                                                 8
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

ŗ

g ð

ò

```
C;Accession: S23751
R;Stewart, H.J.; McCann, S.H.E.; Flint, A.P.F.
J. Mol. Endocrinol. 4, 275-282, 1990
A;Title: Structure of an interferon-alpha2 gene expressed in the bovine conceptus early i
A;Reference number: S23751; MUID:90334707; PMID:2378676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cispecies: Bos primigenius taurus (cattle)
Cispecies: Bos primigenius tayson
Cispecies: Doc-1991
Ridansen, T.R.; Leaman, D.W.; Cross, J.C.; Mathialagan, N.; Bixby, J.A.; Roberts, R.M.
J. Biol. Cham. 266, 3060-3367, 1991
A;ritle: The genes for the trophoblast interferons and the related interferon-alphaII post A;Reference number: A39505, MUID:91131606; PMID:1704373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: UNIPROT:P15696; GB:M60908; NID:g163213; PIDN:AAA62711.1; PID:g163214; C;Superfamily: interferon alpha [F:1.23]Domain: signal sequence #status predicted <SIG>F:1-23/Domain: signal sequence #status predicted <MAT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Molecule type: DNA
A,Residues: 1-195 <STE>
A,Cross-references: UNIPROT:P15696, EMBL:X65539; NID:g765; PIDN:CAA46506.1; PID:g766
                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                    61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                     84 LQOSFNLFHTERSSAAWNTTLLEQLCTGLQQQLEDLDTCRGPVMGEKDSELGKMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            84 LQQCFNLFYTEHSSAAMNTTLLEQLCTGLQQQLEDLDACLGPVMGEKDSDMGRMGPILITV 143
                                                                                                                                         9
                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              trophoblast interferon type I precursor - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 19-Feb-1994 #sequence_revision 10-Nov-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CYLSENHMLGARENLRLLARMNRLSPHPCLQDRKDFGLPQEMVEGNQLQKDQAISVLHEM
                                                                                                                                                                                              24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEAQAFCVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CYLSRKIMIDARENIKLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                         CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KKYFQGIHVYLKEKEYSDCAWEIIRMEMMRALSSSTTLQKRLRKMGGDLNS 194
                                                                                   .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                       Length 184;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 195;
                    Query Match 82.1%; Score 745; DB 2; Length 18 Best Local Similarity 88.8%; Pred. No. 5.3e-61; Matches 142; Conservative 10; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19; Indels
                                                                                                                                                                                                                                                                                                                                                                     121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQK 160
                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
79.8%; Score 724; DB 2;
Best Local Similarity 80.7%; Pred. No. 4.7e-59;
Matches 138; Conservative 14; Mismatches 19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 723; DB 2;
Pred. No. 5.9e-59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            79.7%;
80.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: mRNA
A; Residues: 1-195 <HAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A, Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Accession: A39505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: S23751
                                                                                                                                                                                                                                                                                                                                                                                                                           144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144
                                                                                                                                            ò
                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 09-Jul-2004
C;Accession: 147097
R;Leaman, D.W.; Roberts, R.M.
A; Interferon Res. 12, 1-11, 1992
A;Title: Genes for the trophoblast interferons in sheep, goat, and musk ox and distribut A;Reference number: 146272; MUID:92242937; PMID:1374107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: UNIPROT:P28169; GB:M73241; NID:g166025; PIDN:AAA31573.1; PID:g166026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and musk ox and distribut
                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                  LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                   84 LQQSFNLFHTERSSAAWNTTLLEQLCTGLQQQLEDLDTCRGPVMGEKDSELGRMDPIVIV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84 LOOSFNLFHTERSSAAMNTTLLEQLCTGLOOOLEDLDTCRGPVMGEKDSELGKMDPIVTV 143
                                                                                                                                                                                              24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEAQAFCVLYEM 83
                                                                                                                                                                   1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKIMLDARENLKILDRMNRLSPHSCLQDRXDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 CYLSQRLMLDARENIRLIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEAQAFCVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                trophoblast protein-1 - sheep
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 15-Oct-1996 #sequence_revision 15-Oct-1996 #text_change 16-Jul-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: GB:M73242; NID:g166027; PIDN:AAA31574.1; PID:g166028
                                                                                                                                                                                                                                                                                                                                                                                                                                    KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        144 KKYFQCIHFYLKEKEYSDCAWEIVRVENMRALSSSTSLQERLRKWGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ..
0
                                                  Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Riceman, D.W.; Roberts, R.M.
J. Interferon Res. 12, 1-11, 1992
A;Title: Genes for the trophoblast interferons in sheep, goat, A;Reference number: 146272; MUID:92242937; PMID:1374107
A;Accession: 147098
                                                  Score 806; DB 2; Length 19
Pred. No. 1.5e-66;
9; Mismatches 9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85.8%; Score 778; DB 2;
86.6%; Pred. No. 5.4e-64;
iive 13; Mismatches 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-184 <LEA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Status: preliminary; translated from GB/EMBL/DDBJA;Molecule type: DNA
                                                  Query Match
Best Local Similarity 89.5%;
Matches 154; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A,Gene: oTP-1
C,Superfamily: interferon alpha
C; Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A,Gene: oTP-1
C,Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 86.6
Matches 149; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -195 <LEA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C, Accession: 147098
                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 10
```

엄

ð

ò

S

ö

Gaps

ö

20; Indels

13; Mismatches

```
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Search completed:
Job time : 26 secs
  138;
                                                                                                                                      61
                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
  Matches
                                                à
                                                                                    g
                                                                                                                                      ò
                                                                                                                                                                          g
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ይ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'Status: preliminary
.Molecule type: DNA
.Residues: 1-195 «HAN»
.Rosereferences: 1-195 «HAN»
.Stores-references and pha
.Superfamily: interferon alpha
.1-23/Domain: signal sequence #status predicted «SIG»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Imakawa, K.; Hansen, T.R.; Malathy, P.V.; Anthony, R.V.; Polites, H.G.; Marotti, K.R.;
Mol. Endocrinol. 3, 127-139, 1989
A;Title: Molecular cloning and characterization of complementary deoxyribonucleic acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RiHansen, T.R.; Leaman, D.W.; Cross, J.C.; Mathialagan, N.; Bixby, J.A.; Roberts, R.M. J. Biol. Chem. 266, 3060-3067, 1991
A;Title: The genes for the trophoblast interferons and the related interferon-alphall j
A;Reference number: A39505; MUID:91131606; PMID:1704373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
  ö
                                                                                                                                                                84 LQQCFNLFYTEHSSAAWNTTLLEQLCTGLQQQLEDLDACLGPVMGEKDSDMGRMGPILITV 143
                                                                                                                                    61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                9
                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24 CYLSEDHMLGARENLRLLARMNRLSPHPCLQDRKDFGLPQEMVEGNQLQKDQAISVLHEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                              .Species: Bos primigenius taurus (cattle)
.Date: 28-Feb-1992 #sequence_revision 28-Feb-1992 #text_change 09-Jul-2004
.Accession: A40068
                                             1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                      24 CYLSEDHMLGARENLRLLARMNRLSPHPCLQDRKDFGLPQEMVEGNQLQKDQAISVLHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  trophoblast protein-1 precursor (clone 330) - bovine
C;Species: Bos primigenius taurus (cattle)
C;Date: 30-Dec-1991 #sequence_revision 30-Dec-1991 #text_change 09-Jul-2004
C;Accession: B39505
  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                       144 KKYFQGIHVYLKEKEYSDCAWEIIRMEMMRALSSSTTLQKRLRKMGGDLNS 194
                                                                                                                                                                                                                            121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            79.4%; Score 720; DB 2; Length 195; 80.7%; Pred. No. 1.1e-58; tive 13; Mismatches 20; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-195 <IMA-
A;Cross-references: UNIPROT:Q9MYK6; UNIPROT:Q9GLL6; GB:M31556
C;Superfamily: interferon alpha
F;1-23/Domain: signal sequence #status predicted <SIG>F;24-195/Product: trophoblast protein-1 #status predicted <MAT>
Indels
                                                                                                                                                                                                                                                                                                                                                                                           trophoblast protein-1 precursor (clone bTP509) - bovine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Reference number: A40068; MUID:89127268; PMID:2521687
19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 720; DB 2;
Pred. No. 1.1e-58;
14; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     79.4%;
80.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 80.7%
Matches 138; Conservative
Matches 138; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Accession: B39505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                          a
                                                                                    유
                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

```
ଘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule_type: mRNÅ
*Residues: 1-193 < WHIA-
A;Cross-references: UNIPROT:P37290; GB:L25664; NID:g479010; PIDN:AAA36123.1; PID:g479011
C;Superfamily: interferon alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Date: 07-Oct-1994 #sequence_revision 07-Oct-1994 #text_change 09-Jul-2004
C;Accession: A53746
R;Whaley, A.E.; Meka, C.S.R.; Harbison, L.A.; Hunt, J.S.; Imakawa, K.
J. Biol. Chem. 269, 10864-10868, 1994
A;Title: Identification and cellular localization of unique interferon mRNA from human A;Reference number: A53746; MUID:94193794; PMID:7511610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                         84 LQQCLNLFYTEHSSAAWNTTLLEQLCTGLQQQLEDLDACLGFVWGEKDSDWGRMGPILTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         83
                                                                                                                                                                                                                                                                                                                                                                                                             interferon, trophoblast - human
C;Species: Homo sapiens (man)
C;Date: 07-Oct-1994 #sequence_revision 07-Oct-1994 #text_change 09-Jul-2004
1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                24 CYLSEDHMLGARENLRLLARMNRLSPHPCLODRKDFGLPQEMVEGNQLQKDQAISVLHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24 CDLSQNHVLVGRKNLRLLDEMRRLSPHFCLQDRKDFALPQEMVEGGQLQEAQAISVLHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144 KKYFQGIHVYLKEKEYSDCAWEIIRVEMMRALSSSTTLQKRLRKMGGDLNS 194
                                                                                                                                                                                                                     KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNS 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67.1%; Score 609; DB 2; 68.6%; Pred. No. 1.6e-48; ative 20; Mismatches 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            completed: October 28, 2005, 15:00:52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 118; Conservative
```

THE PACE OF ANK (ISPO)

```
ovis aries
ovis aries
capra hircu
ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         capra hircu capra hircu ovis aries capra hircu capra hircu capra hircu capra hircu capra hircu ovibos mosc ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ovis aries
ovis aries
ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                giraffa cam
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        homo sapien
ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P56828 ovis aries
P56829 ovis aries
                                                                                                                                                                      October 28, 2005, 14:49:06; Search time 115.5 Seconds (without alignments) 762.577 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                      1 CYLSRKLMLDARENLKLLDR.....TVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P56832

Q28594

Q28595

Q28695

Q08070

Q08070

Q08071

Q08071

Q060259

Q060269

Q0
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1612378 seqs, 512079187 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QBMJ29
QBMJ29
QBMJ29
QBMJ26
QGGLI6
QGDU3
QGGLIS
INT GREEL
INT CEREL
IND HWAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10172_SHEEP
10173_SHEEP
10173_SHEEP
1017_SHEEP
10175_SHEEP
10175_SHEEP
10176_SHEEP
10177_SHEEP
10176_SHEEP
10177_SHEEP
10177_S
                                                                                                             OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                 BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                 US-10-719-472-2
907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match Length DB
                                                                                                                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99000
99000
99000
99000
99000
99000
99000
99000
99000
99000
99000
99000
99000
99000
99000
                                                                                                                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                            Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š.
```

P28170 ovis aries	P07352 bos taurus	Q6smq8 bos mutus g Q29085 sus scrofa	P05002 equus cabal	Q29098 sus scrofa	P05000 homo sapien	Q29084 sus scrofa	Q13168 homo sapien	P05001 equus cabal	P01569 homo sapien	P01570 homo sapien	P01571 homo sapien
P28170	INOL_BOVIN	Q6SMQ8 Q29085	INO2 HORSE	029098	INO1 HUMAN	029084	Q13168	INO1 HORSE	INAS HUMAN	INAD_HUMAN	INAG_HUMAN
77	٦,	02 N	н	N	н	N	~	-	Н	-	н
195	195	129	195	190	195	179	174	195	189	189	189
64.7	64.2	58.5 56.6	55.0	53.9	52.1	51.8	50.9	49.0	48.5	48.5	48.3
587	582	531 513.5	499	488.5	473	469.5	462	444	440	440	438
32	3.6	9 2 9 3	37	38	39	40	41	42	43	44	45

2 587 64.7 195 2 F28170 F28170 CVI 3 585 64.5 195 2 Q28561 Q28561 OVI 4 582 64.2 195 1 INOL BOVIN P07352 bos 5 531 58 5 750 7 ACMOR	Q68mq8 Q68mq8 P05002 Q29084 Q03168 P013168 P01569 P01570 P01571	Ovis aries (Sheep). Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae (aprinae; Ovis.) NCBI_TaxID=9940; [1] SEQUENCE FROM N.A. TISSUB=Trophoblast; MEDLINES=88065885; PubMed=2446135; DOI=10.1038/330377a0; Imakawa K., Antony R.V., Kazemi M., Marotti K.R., Polites H.G.,	RT "Interferon-like sequence of ovine trophoblast protein secreted by RT embryonic trophectoderm."; RL Nature 330:377-379(1987). RN [2] RP FUNCTION. RX MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144; RA Spencer T.E., Bazer F.W.; RT "Ovine interferon tau suppresses transcription of the estrogen RT receptor and oxytocin receptor genes in the ovine endometrium."; RL Endocrinology 137:1144-1147(1996).	RX CICULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING. RX MEDLINE=55062134; PubMed=7971949; RA Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., RX Krishna N.R., Pontzer C.H.; RT Predicted structural motif of IFN tau."; RN WPLINES MODELING. RX MEDLINE=96318252; PubMed=8746786; RX MEDLINE=96318252; PubMed=8746786; RX Senda T., Saitch SI., Mitsui Y., Li J., Roberts R.M.; RY Sanda T., Saitch SI., Mitsui Y., Li J., Roberts R.W.; RY "A three-dimensional model of interferon-tau."; RN [5] RN [5]	RY REVIEW. RX MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; RA Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., RA Guillomot M.W., Charlier M.A., Charpigny S.Y.; RT "IFN-tau: a novel subtype I IFN1. Structural characteristics, non- RT ubiquitous expression, structure-function relationships, a pregnancy RT hormonal embryonic signal and cross-species therapeutic
--	---	--	---	--	---

LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120 84 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQWGEEDSELGNMDPIVTV 143

61

ð

셤 ò g

```
recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptors probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFV-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cytotoxicity, high antiluteolytic activity and immunomodulatory in properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use, by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: Secreted into the uterine lumen. TISSUE SPECIFICITY: Constitutively and exclusively expressed in the monouclear cells of the extra-embryonic trophectoderm. DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy. MISCELLANBOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. Hely encode for proteins very similar in sequence but with different biological potency and pattern of expression.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PR00266; INTERFERONAB.
PRODOM; PD000550; Interferon abd; 1.
PROSITE; PS00252; INTERFERON A B D; 1.
PROSITE; PS00254; INTERFERON A B D; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 907; DB 1; Length 195; 100.0%; Pred. No. 3.3e-76; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22192 MW; A4965AE25DEA5BC9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        By similarity.
Interferon tau-1.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; S03799; JS0204.

PDB; 1B5L; X-ray; @=24-195.

InterPro; 1PR009079; 4 helix cytokine.

InterPro; IPR000471; Interferon_abd.

Pfam; PF00143; Interferon, 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; Y00287; CAA68396.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11955
11622
1622
1623
663
663
663
11011
1122
1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  alphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100
103
138
157
161
195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pregnancy; Signal.
                                                                                                                                                                                                                                                                                       nducible.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TURN
TURN
HELIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HELIX
TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HELIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HELIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HELIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HELIX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IURN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TURN
```

```
Stewart H.J., Flint A.P., Lamming G.E., McCann S.H., Parkinson T.J.; "Antiluteolytic effects of blastcoyst-secreted interferon investigated viviro and in vivo in the sheep.", Reprod. Fertil. Suppl. 37:127-138(1989).
                                    INT2 SHEEP STANDARD; PRT; 195 AA.
P56829; P08816;
01-AUG-1988 (Rel. 08, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-2 precursor (IFN-tau2) (Trophoblast protein-1) (TPP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Winkelman G.L., Roberts R.M., Peterson A.J., Alexenko A.P., Ealy A.D., "Identification of the expressed forms of ovine interferon-tau in the peri-implantation conceptus: sequence relationships and comparative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stewart H.J., McCann S.H., Northrop A.J., Lamming G.E., Flint A.P., "Sheep antiluteolytic interferon: cDNA sequence and analysis of mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIINE-801375/9; PubMed=1254170; DOI=10.1016/0014-5793(88)80574-X; Charpigny G., Reinaud P., Huet J.-C., Guillomot M., Charlier M., Pernollet J.-C., Martal J.; "High homology between a trophoblastic protein (trophoblastin) isolated from ovine embryo and alpha-interferons."; FEBS Lett. 228:12-16(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=89326151; PubMed=2753362; DOI=10.1016/0378-1119(89)90082-6;
                                                                                                                                                                                                     Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Caprinae; Ovis.
VCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Charlier M., Hue D., Martal J., Gaye P.; "Cloning and expression of cDNA encoding ovine trophoblastin: its identity with a class-II alpha interferon."; Gene 77:341-348(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. (IFN-TAU2C).
MEDLINE-91067497; PubMed-1701245;
Klemann S.W., Imakawa K., Roberts R.M.;
"Sequence variability among ovine trophoblast interferon cDNA.";
Nucleic Acids Res. 18:6724-6724(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 24-195 FROM N.A. (IFN-TAU2A AND IFN-TAU2B)

    Mol. Endocrinol. 2:65-70(1989).

                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (IFN-TAU2C).
MEDLINE=90040431; PubMed=2530342;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A. (IFN-TAU2C).
MEDLINE=89351557; PubMed=2475129;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A. (IFN-TAU2C).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               biological activities."
                                                                                                                                                                                             Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 24-68.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rissum=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IISSUE=Embryo;
                                                                                                                                                                        Name=IFNT2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [7] FUNCTION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                levels.
                    INT2_SHEEP
RESULT 2
```

Conservative

Matches 172;

Local

Similarity

ö

Gaps

. 0

```
EMBL; AF158820; AAD44972.1; -. PIR; S03799; JS0204.
HSSP; P56828; 1B5L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last seq
                                                                                                                                                                                                                                                                                                                                                                                                                          22192 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 98.8
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                            24 1
24 1
52 1
106 1
130 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INT3 SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Caprinae;
                                                                                                                                                                                                                                                                                                                         DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION.
                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                             VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                  VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P56832;
                                                                                                                                                                                                                                                                          SIGNAL
                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INT3 SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@leb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium in the receptor expression of the pulsatile endometrium of the luteolytic, hormone prostaglandin P2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclocxicity, high antiluteolytic activity and immunomodularcry properties. In contrast with other IFNS, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpjany S.Y.; Introven a novel subtype I IRN. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -!- SUBCELLULAR LOCATION: Secreted into the uterine lumen.
-!- TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm.
-!- DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-!- POLYMORPHISM: There seems to be three variants of IFN-tau 2:
-- AF PRVZ/PT (shown here), B/PSV4 and C/PS.
-- MISCELLANEOUS: IFN-tau genes are intronless. They evolved from IFN-cmega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    They encode for proteins very similar in sequence but with different biological potency and pattern of expression. SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphalI subfamily.
                          Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
  MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                             CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
MEDLINE=95062134; PubMed=7971949;
Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto B.V.,
Krishna N.R., Pontzer C.H.,
"Predicted structural motif of IFN tau.";
Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                 MEDLINE=96318252; PubMed=8746786; Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.; "A three-dimensional model of interferon-tau.";
                                                                                                                                                                                                                                                                                                                                                                                                                            Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AF158818; AAD44970.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             M26386; AAA31584.1; -. X56344; CAA39784.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X07920; CAA30753.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biochimie 80:755-777 (1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAA39785.1;
                                                                                                                                                                                                                                                                                                                            3D-STRUCTURE MODELING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     potentialities.";
```

EMBL; EMBL;

```
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
1nterferon tau-3 (IFN-tau3) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE=Embryo; Winkelman G.L., Roberts R.M., Peterson A.J., Alexenko A.P., Ealy A.D.; Winkelman G.L., Roberts R.M., Peterson of the expressed forms of ovine interferon-tau in the peri-implantation conceptus: sequence relationships and comparative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 CYLSQRLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKIMLDARENLKILDRWNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ovis aries (Sheep).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
MEDLINE-95062134; PubMed=7971949;
Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V.,
Krishna N.R., Pontzer C.H.;
"Predicted structural moif of IFN tau.";
Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99.2%; Score 900; DB 1; Length 195; 98.8%; Pred. No. 1.5e-75; ive 2; Mismatches 0; Indel8
                                                                                             PRIMYS; PRODZ66; INTERPERONAB.
PRODOM; PD000550; INTERPERONAB.
PROSITE; PS00252; INTERPERON_A B D; 1.
Antiviral; Cyrokine; Direct protein sequencing; Hormone;
Multigene family; Polymorphism; Pregnancy; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       biological activities ";
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                              By similarity.
By similarity.
By similarity.
E -> D (in IFW-tau2C).
E -> K (in IFW-tau2B).
E -> K (in IFW-tau2B).
                                                                                                                                                                                                                                                                                                                 Interferon tau-2
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
Pfam; PF00143; Interferon; 1.
```

ö

9 83 120

```
1 99 By
29 139 By
87 87 T
124 125 FB
130 130 L
172 AA; 19866 MW;
                                                                                                                                                          EMBL; AF158817; AAD44969.1; -. EMBL; AF158819; AAD44971.1; -. HSSP; P56828; 1B5L.
                                      potentialities.";
Biochimie 80:755-777(1998).
                                                                                                                                                                                      Pregnancy.
DISULFID
                                                                                                                                                                                                    VARIANT
SEQUENCE
                                                                                                                                                                                            DISULFID
                                                                                                                                                                                               VARIANT
VARIANT
```

By similarity.
By similarity.
T -> S (in isoform B).
FE -> SQ (in isoform B).
L -> Y (in isoform B).
A; 7BFP1F036545C8E2 CRC64;

97.98; Query Match Best Local Similarity 97.7³ Matches 168; Conservative 3D-STRUCTURE MODELING Name=IFNT4; Ovis aries (Sheep). FROM N.A. NCBI_TaxID=9940; Caprinae; SEQUENCE INT4_SHEEP ò ò g ò recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium is results in the corpus luteum (luteolysis) and therefore a return to ovarian prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclotoxicity, high antiluteolytic activity and immunomodulatory properties. In contrast with other IFNs, IFN-tau is not virally This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). -i TISSUE SPECIFICITY: Constitutively and exclusively expressed in the monouclear cells of the extra-embryonic trophectoderm.

-! DBVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.

-! POLYMORPHISM: There seems to be two variants of IFN-tau 3: A/P8V1 (shown here) and B/P8V3.

-! MISCELLANEOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.

-! SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily. REVIEW.
MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7;
Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B.,
Guillomot M.W., Charlier M.A., Charpigny S.Y.;
"IFN-tau: a novel subtype I IFN1. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy PEAM; PF00143; Interferon; 1.
PRINTS; PR00266; INTERFERONAB.
PRODOM; PD000550; INTERFERON AB D; FALSE NEG.
PROSITE; PS00222; INTERFERON A B D; FALSE NEG.
Antiviral; Cytokine; Hormone; Multigene family; Polymorphism; SUBCELLULAR LOCATION: Secreted into the uterine lumen. [4]
3D-STRUCTURE MODELING.
MEDLING=96318252; Pubmed=8746786; Li J., Roberts R.M.; Senda T., Saitch S.-I., Mitsui Y., Li J., Roberts R.M.; Senda T. Li Mitsui Y., Li J., Roberts R.M.; A three-dimensional model of interferon-tau."; J. Interferon Cytokine Res. 15:1053-1060(1995). hormonal embryonic signal and cross-species therapeutic InterPro; IPR009079; 4 helix cytokine. InterPro; IPR000471; Interferon_abd.

```
61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                    9
                                                                                                                               9
                                                                                      CYLSRKLMLDARENLKLLDRMNRLSPHSCLODRKDFGLPOEMVEGDOLOKDQAFPVLYEM
                                                                                                                             CYLSERIMIDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                INT4 SHEEP STANDARD; PRT; 195 AA.

Q2854;

Q38-34.

30-MAY-2000 (Rel. 39, Created)

30-MAY-2000 (Rel. 39, Last sequence update)

05-UDL-2004 (Rel. 44, Last annotation update)

Interferon tau-4 precursor (IFN-tau4) (Trophoblast protein-1) (TP-1)

(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y., "IRN-tau: a novel subtype I IRNI. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Elechimie 80:755-777(1998).
-!- FUNCTION: Paracrine hormone primarly responsible for maternal
recognition of pregnancy. Interacts with endometrial receptors,
                                                                                                                                                                                                                                                              121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                         KKYFEGIYDLLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Klemann S.W., Imakawa K., Roberts R.M.;
"Seguence variability among ovine trophoblast interferon cDNA.";
Nucleic Acids Res. 18:6724-6724(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium.";
                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H.; "Predicted structural motif of IFN tau."; Protein Eng. 7:863-867(1994).
  Length 172;
Score 888; DB 1; Length 17
Pred. No. 1.6e-74;
2; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitteui Y., Li J., Roberts R.M.;
Start A bree-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING MEDLINE=95062134; PubMed=7971949;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=91067497; PubMed=1701245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Endocrinology 137:1144-1147(1996)
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use, by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   83
                                                                                                                                                                                                                                                                                                   -1- SUBCELLULAR LOCATION: Secreted into the uterine lumen.
-1- TISSUE SPECIFICITY: Constitutively and exclusively expressed in the monounclear cells of the extra-embryonic trophectoderm.
-1- DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-1- MISCELLANEOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.
-1- SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphall subfamily.
                    expression, preventing the estrogen-induced increase in oxytocin succeptor expression in the endometrium. This results in the suppression of the pulsatile endometrium. This results in the hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiprollierative potency concurrently with particular weak cytotoxicity, high antiluteolytic activity and immunomedulatory properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; lrnc...

R InterPro; lrnc...
R Pfam; PF00143; Interferon; 1.
R Pfam; PF00143; Interferon abd; 1.
DR PRINTS; PR00266; INTERFERONAB, 1.
DR ProDom; PD000550; INTERFERON_A B D; 1.
KW Antiviral; Cytokine; Hormone; Multigene family; Pregnancy; Signal.
FT SIGNAL 1 23 By Similarity.
THAIN 24 122 By Similarity.
By Similarity.
By Similarity.
Anshababbr5AA931 CRC64;
  probably type I interferon receptors, and blocks estrogen receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       84 LQQSFNLFYTEHSSAAWDTTLLDQLCTGLQQQLDHLDTCRDQVWGEKDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24 CYLSQRIMLDARENLKILDRANRISPHSCLODRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSRKIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97.1%;
96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X56341; CAA39781.1; -. HSSP; P56828; 1B5L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  166;
원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
```

195 AA

PRT;

INT7 SHEEP STANDARD; QO8071; 30-MAY-2000 (Rel. 39, Created)

INT7_SHEEP ID INT7_SI AC Q08071 DT 30-MAY

```
Detentialities...;

Biochimie 80:755-777(1998)

L. FUNCTION: Paracrine hormone primarly responsible for maternal recognition of pregnancy. Interacts with endomerrial receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxyrocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium in the regression of the pulsatile endometrium to certain the corpus luteum (luteolysis) and therefore a return to continued ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian prostaglandin secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cycloxicity, high antiluteolytic activity and immunomodularcry individuals.
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-7 precursor (IFN-tau7) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REVIEW.
MEDLINE=99081036; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7;
Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B.,
Guillomot W.W., Charlier M.A., Charpigny S.Y.;
"IFN-tau: a novel subtype I IFN1. Structural characteristics, non-
ubiquitous expression, structure-function relationships, a pregnancy
hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -i- TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm.
-i- DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-i- MISCELLANBOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to
                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                        Nephew K.P., Whaley A.E., Christenson R.K., Imakawa K.; "Differential expression of distinct mRNAs for ovine trophoblast protein-1 and related sheep type I interferons."; Biol. Reprod, 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             endometrium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       estrogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H.; "Predicted structural motif of IFN tau."; Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Spencer T.E., Bazer F.W.;
"Ovina incerferon tau suppresses transcription of the receptor and oxytocin receptor genes in the ovine endo Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                         MEDLINE=93250155; PubMed=8485241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=95062134; PubMed=7971949;
                                                                                                                                                                                                                                                                                                    TISSUE=Trophectoderm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3D-STRUCTURE MODELING
                                                                                                                Name=IFNT7;
Ovis aries (Sheep).
                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A
                                                                                                                                                                                                                              NCBI_TaxID=9940;
                                                                                                                                                                                                             Caprinae
                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this etatement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CYLSRRIMIDARENIRILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQXDQAFPVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-5 precursor (IFN-tau5) (Trophoblast protein-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
      duplicate independently in different lineages of the ruminantia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PRO0266; INTERFERONAB.
PRODOM; PD000550; INTERFERONAB.
PROSITE; PS00252; INTERFERON A B D; 1.
Antiviral; Cytokine; Hormone; Multigene family; Pregnancy; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144 KKYFQGIHDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chordata, Craniata, Vertebrata, Euteleostomi,
Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                           They encode for proteins very similar in sequence but with different biological potency and pattern of expression. SIMILARITY: Belongs to the alpha/beta interferon family. IFNalphalI subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Klemann S.W., Imakawa K., Roberts R.M.;
"Sequence variability among ovine trophoblast interferon cDNA.";
Nucleic Acids Res. 18:6724-6724 (1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144; Spencer T.E., Bazer F.W.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97.0%; Score 880; DB 1; Length 195; 96.5%; Pred. No. 1.1e-73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1444AEDE80ABAB48 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       By similarity.
Interferon tau-7.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; M88771; AAA31505.1; -.
PIR; 147068; 147068.
HSSP; P56828; 1B5L.
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon abd.
PF00143; Interferon abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=91067497; PubMed=1701245;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           195 AA; 22223 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 166; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa;
Mammalia; Eutheria;
Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=IFNT5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INTS_SHEEP
ID_INTS_SHEEP
AC_Q28595;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
SO THE TAKE THE TENT OF THE TE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

us-10-719-472-2.rup

```
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                             ö
                                                                                                                                                                                         143
                                                                                                                                                                  61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDPIVTV 120
                                                                                                                   9
                                                                                                                                          83
                                                                                                                                   24 CYLSQRLMLDAKENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                              CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                     30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
65-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-9 precursor (IRN-tau9) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y., "IFN-tau: a novel subtype I IFNI. Structural characteristics, non-
                                                                                                                                                                                                                121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                             144 KKYFQGIHDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                      Ovis aries (Sheep).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nephew K.P., Whaley A.E., Christenson R.K., Imakawa K.;
"Differential expression of distinct mRNAs for ovine trophoblast
protein-1 and related sheep type I interferons.";
Biol. Reprod. 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Spencer T.E., Bazer F.W.; "Ovina interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                              ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V., Krishna N.R., Pontzer C.H., "Predicted structural motif of IFN tau."; Protein Eng. 7:863-867(1994).
                                                                      Length 195;
                                                                                             1; Indels
By similarity.
Interferon tau-5.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=96118252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimenslonal model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING
                                                                       DB 1;
                                                                      Score 877; DB 1;
Pred. No. 2e-73;
                                                                                                                                                                                                                                                                                                 195 AA
                                                                                              6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
TISSUE=Trophectoderm;
MEDLINE=93250155; Pubmed=8485241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=95062134; PubMed=7971949
 1 23 BY
24 195 In
24 12 BY
52 162 BY
195 AA; 22163 MW;
                                                                      96.7%;
                                                                    Query Match
Best Local Similarity 95.9
Matches 165; Conservative
                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D-STRUCTURE MODELING
                                                                                                                                                                                                                                                                                                                                                                                                                                           Caprinae, Ovis.
NCBI TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                            Name=IFNT9;
                                                                                                                                                                                                                                                                                                INT9 SHEEP
                        DISULFID
DISULFID
                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION
                                                                                                                                                                                                                                                                                   SHEEP
               CHAIN
   SFFF
                                                                                                                   ò
                                                                                                                                         요
                                                                                                                                                                  ð
                                                                                                                                                                                       ద
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                      g
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@ib.ch).
                                                                                                                                                                                    recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclocxicity, high antiluteolytic activity and immunomodulacory properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84 LQQTFNLFHTEHSSAAMDTTLLEQLCTGLQQQLEDLDTCRGQVMGEEDSELGNMDPIVTV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24 CYLSQRLMLDARENLKLLEPMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CYLSRKIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -:- SUBLEADULAR JOUGHILOW: SECTECEG INTO THE ULTER LUMEN.
-!- TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm.
-!- DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-!- MISCELLANEOUS: IFN-tau genes are intronless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.
-!- SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
    a pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; M88773; AAA31503.1;.-.
HSP; 147066; 147066.
HSSP; P56828; 1B5L.
InterPro; IPR009079; 4_helix_cytokine.
InterPro; IPR000471; Interferon_abd.
Pfam; PF00143; Interferon; 1.
PRINTS; PR00266; INTERFERONAB.
PRODOM; PD005505; INTERFERON abd; 1.
PROSITE; PS00552; INTERFERON AB D; 1.
Antiviral; Cytokine; Hormone; Multigene family; Pregnancy; Signal.
                                                                   121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             144 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKWGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.7%; Score 868; DB 1; Length 19:
95.3%; Pred. No. 1.4e-72;
95.3%; "...marches 2; Indels
expression, structure-function relationships,
                                         hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Interferon tau-9.
By similarity.
By similarity.
i 00DE9CB089D98493 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          By similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     195 AA; 22127 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    164; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
```

ω

```
recognition of pregnancy. Interacts with endomerrial receptors, probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptors, probably type I interferon receptors, and blocks estrogen receptor expression in the estrogen-induced increase in oxytocin receptor expression in the endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the oxytocin corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutrients required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclocaxicity, high antiluteolytic activity and immunomodularcry inducible.
                                                         30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
1nterferon tau-8 precursor (IFN-tau8) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charigony S.Y., "IFN-tau a novel subtype I IFNI. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic potentialities."; Biochimie 80:755-777(1998).
                                                                                                                                                                                                                                      Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
Caprinae, Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                Nephew K.P., Whaley A.E., Christenson R.K., Imakawa K.;
"Differential expression of distinct mRNAs for ovine trophoblast
protein-1 and related sheep type I interferons.";
Biol. Reprod. 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Spencer T.E., Bazer F.W.; "Ovine interferon tau suppresses transcription of the estrogen "Covine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=95062134; PubMeda7971949;
Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto B.V., Krishna N.R., Pontzer C.H.;
"Predicted structural motif of IFN tau.";
Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
                      195 AA
                      PRT;
                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Trophectoderm;
MEDLINE=93250155; PubMed=8485241;
                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3D-STRUCTURE MODELING
                                                                                                                                                                                                                  Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9940;
                                                                                                                                                                                           Name=IFNT8;
                    INT8 SHEEP
008072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REVIEW
INT8_SHEEP
```

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial noved. Usage by and for commercial
(See http://www.isb-sib.ch/announce/ ö 61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120 83 30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
65-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau precursor (IRN-tau) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein). 1 CYLSRKIMIDARENIKIIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEDQAFPVLYEM -i-TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm.
-i-DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-i-MISCELLANEOUS: IFN-tau genes are intronless. They evolved from IFN-omaga genes in the ruminantia subcorder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.
-i-SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily. Gaps ProDom; PD000550; Interferon abd; 1. PROSITE; PS00252; INTERFERON A B D; 1. Antiviral; Cytokine; Hormone; Multigene family; Pregnancy; Signal. KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172 Capra hircus (Goat). Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae, Caprinae, Capra. NCBI_TaxID=9925; KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKTGGDLNSP 195 ; 0 Length 195; SUBCELLULAR LOCATION: Secreted into the uterine lumen. 3; Indels By similarity.
By similarity.
7F92C56EC8DB5AB8 CRC64; 95.4%; Score 865; DB 1; 94.8%; Pred. No. 2.6e-72; Interferon tau-8. 195 AA 6; Mismatches By similarity or send an email to license@isb-sib.ch). HSSP, P56826, 1B51.
InterPro: IPR009079; 4 helix cytokine.
InterPro: IPR000471; Interferon abd.
PRINTS; PR00143; Interferon; 1.
PRINTS; PR00266; INTERPERONAB. entities requires a license agreement SEQUENCE FROM N.A. MEDLINE-92242937; PubMed=1374107; Leaman D.W., Roberts R.M.; 22157 MW; EMBL; M88772; AAA31506.1; -. Name=IFNT; Synonyms=CTP-1; Conservative STANDARD; 162 PIR; 147069; 147069. 24 1 52 1 195 AA; Best Local Similarity Matches 163; Conserv INT CAPHI P28171; DISULFID DISULFID 121 SEQUENCE Query Match SIGNAL CHAIN INT_CAPHI 셤 엄 8 g ò ò

83

ò 셤 ò

24 CYLSRRLMLDARENLRLLDRMNRLSPHSCQQDRKDFGLPQEMVEGDQLQKDQASCVLYEM

```
potentialities...;

Biochimie 80:755-777(1998).

1. FUNCTION: Paracrine hormone primarly responsible for maternal recognition of pregnancy. Interacts with endometrial receptors, probably type I interferon receptors, and blocks estrogen receptor expression, preventing the estrogen-induced increase in oxyrocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrium. This results in the hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to confinued ovarian progesterone secretion, which stimulates the secretion by the endometrium of the nutriens required for the growth of the conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyctoxicity, high antilutedolytic activity and immunomodularcy is an encourage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation—the buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
trophoblast interferons in sheep, goat, and musk ox and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. DevELOPMENTALE STAGE: Major secretory product synthesized by the CONCEPTURE during a very short period in early pregnancy. MISCELLANEOUS: IFN-tau genes are intronless. They evolved from FIN-omega genes in the runninantia suborder and have continued to duplicate independently in different lineages of the runinantia. They encode for proteins very similar in sequence but with sidfferent biological potency and pattern of expression. SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                           MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFN1. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93.3%; Score 846; DB 1; Length 19: 93.6%; Pred. No. 1.5e-70; ive 4; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      049F91D3EBICDB67 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ProDom; PD000550; Interferon abd; 1.
PROSITE; PS00252; INTERFERON A B D; 1.
Antiviral; Cytokine; Hormone; Pregnancy; Signal.
                     distribution of related genes among mammals.";
J. Interferon Res. 12:1-11(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             By similarity. Interferon tau.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIR; 146272; 146272.
HISSP, 556282; 1B5L.
INCEPPC: IPR009079; 4 helix cytokine.
INCEPPC: IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22172 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PR00266; INTERFERONAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; M73243; AAA30907.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00143; Interferon; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     195
122
162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24 1
52 1
195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nducible.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -
```

```
30-WAY-2000 (Rel. 39, Created)
30-WAY-2000 (Rel. 39, Last sequence update)
30-WAY-2004 (Rel. 44, Last annotation update)
Interferon tau-6 precursor (IRN-tau6) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Winkelman G.L., Roberts R.M., Peterson A.J., Alexenko A.P., Ealy A.D., "Identification of the expressed forms of ovine interferon-tau in the peri-implantation conceptus: sequence relationships and comparative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=99081096; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charjgny S.Y.; "IRN-tau: a novel subtype I IRNI. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 24-195 FROM N.A. (IFN-TAU6A; IFN-TAU6B AND IFN-TAU6C).
                                                                                                                                                                                                             Chordata, Craniata, Vertebrata, Buteleostomi, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                              MEDLINE-91067497; PubMed-1701245; Klemann S.W., Imakawa K., Roberts R.M.; Klemann S.W., Imakawa K., Roberts R.M.; "Sequence variability among ovine trophoblast interferon cDNA."; Nucleic Acids Res. 18:6724-6724(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Spencer T.E., Bazer F.W.;
"Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-95062134; PubMed=7971949;
Jarpe M.A., Johnson H.M., Bazer P.W., Ott T.L., Curto E.V.,
Krishna N.R., Ponzer C.H.;
"Predicted structural motif of IFN tau.";
Protein Eng. 7:863-867(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Roberts R.M.;
Submitted (JAN-1996) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                biological activities.";
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitteui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING.
                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (IFN-TAU6D).
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. (IFN-TAUGD)
                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3D-STRUCTURE MODELING.
                                                                                                                                                                                                                 Eukaryota, Metazoa,
Mammalia, Eutheria,
Caprinae, Ovis.
                                                                                                                                                                                          Ovis aries (Sheep)
                                                                                                                                                                                                                                                                         NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Embryo;
                                                                                                                                                                                                                                                                                                                                    TISSUE=Embryo
                                                                                                                                                                          Name=IFNT6;
                                  INT6 SHEEP
Q29429;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REVIEW.
                INT6_SHEEP
RESULT 10
```

ö

Gaps

ö

Best Local Similarity 93.6%; Matches 161; Conservative

120

83

CYLSRKIMIDARENIRILDRWNRISPHSCLQDRXDFGLDQEMVEGDQLQXDQAFSVLYEM 61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV LQQSFNVFHTERSSAAWNTTLLEQLCTGLQQLDHLDTCRGPVMGEKDSELGKMDPIVTV 143

ò 셤

```
Docentialities.";

BlochAimle 80:755-777(1998).

College 80:755-777(1998).

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -:- TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm.
-:- DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy.
-:- POLYMORPHISM: There seems to be four variants of IRN-tau 6:
A/PGV3, B/PGV2, C/PGV1 and D/P6/P12 (shown here).
-:- MISCELLANBOUS: IRN-tau genes are intronless: They evolved from IRN-onnega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different biological potency and pattern of expression.
-:- SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alpha11 subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        By similarity.

By similarity.

N-linked (GlcNAC. .) (Potential).

K -> E (in IFN-tau6A and IFN-tau6B).

K -> N (in IFN-tau6A, IFN-tau6B and IFN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PRO0266; INTERFERONAB.
ProDom; PD000550; Interferon abd; 1.
PROSITE; PS00252; INTERFERON. B. B.D; 1.
Antiviral; Cytokine; Glycoprofein; Hormone; Multigene family; Polymorphism; Pregnancy; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tch 92.8%; Score 842; DB 1; Length 195; al Similarity 93.0%; Pred. No. 3.6e-70; 160; Conservative 6; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUBCELLULAR LOCATION: Secreted into the uterine lumen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tau6C).

88 T -> M (in IFN-tau6A).

22102 MW; C8428392E78CA387 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Interferon tau-6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               By similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIR, A61455, A61455.
HSSP, P56828; 1B5L.
InterPro, IPR009079; 4 helix_cytokine.
InterPro, IPR00471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AF158823; AAD44975.1; -. EMBL; AF158822; AAD44974.1; -. EMBL; AF158821; AAD44973.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; X56343; CAA39783.1; -. EMBL; X56346; CAA39786.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00143; Interferon; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     195
122
162
101
130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             188 1
195 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VARIANT
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
        % THE THE THE TENT OF THE TENT
```

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSRKIMIDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24 CYLSRRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM 83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GO; GO:0005576; C:extracellular; IEA.
GO; GO:000526; C:extracellular; IEA.
GO; GO:0005126; F:hematopoietin/interferon-class (D200-domain. . .; IEA.
GO; GO:0006952; P:defense response; IEA.
InterPro; IPR009079; 4-helix_cytokine.
InterPro; IPR000471; Interferon_abd.
PF00143; Interferon; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                       144 KKYFQGIHDYLQEKGYSDCAWEIVRVEMMRALTSSTTLQKRLTKTGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
105-JUL-2004 (TrEMBLrel. 27, Last annotate)
105-JUL-2004 (TrEMBLrel. 27, Las
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KKYFQGIHDYLQEKEYSDCAWEIVRVEMMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91.5%; Score 830; DB 2; Length 19 ilarity 92.4%; Pred. No. 4.7e-69; Conservative 6; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PRO0266; INTERFERONAB.
Prodom; PD000550; Interferon_abd; 1.
SMART; SM00076; IFabd; 1.
PROSITE; PS00252; INTERFERON_A_B_D; 1.
Antiviral: Cyrokine.
SEQUENCE 195 AA; 22294 MW; 323B782D1D16E69E CRC64;
                                                                                                                                                                                                                                                                                                                                              Last annotation update)
                                                                                                                                                                                                                                                                                                                 Last sequence update)
                                                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                             05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27, 05-JUL-2004 (TrEMBLrel. 27,
                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                         Capra hircus (Goat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 159; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                               Interferon-tau 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Caprinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O6UZ50;
                                                                                                                                                                                                                     Q6UZ49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q6UZ50
                                                                                                                                                      RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 12
                                                                                                                                                                                       Q6UZ49
                                                                                                                                                                                                                                                  ò
                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OS DE DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
```

ö

Gaps

ó

Matches

ö

Gaps

; 0

9 9

Caprinae;

```
61 LOOSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Interferon tau-10 precursor (IPN-taul0) (Trophoblast protein-1) (TP-1)
(Trophoblastin) (Antiluteolysin) (Trophoblast antiluteolytic protein)
                                                                                                                                                                                         1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                      1 CYLSQRLMLDARENLRILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=99081036; PubMed=9865498; DOI=10.1016/S0300-9084(99)80029-7; Martal J.L., Chene N.M., Huynh L.P., L'Haridon R.M., Reinaud P.B., Guillomot M.W., Charlier M.A., Charpigny S.Y.; "IFN-tau: a novel subtype I IFNI. Structural characteristics, non-ubiquitous expression, structure-function relationships, a pregnancy hormonal embryonic signal and cross-species therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KKYFQGIHDYLQEKEYSDCAWEIVRVEMMRALISSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ovis aries (Sheep).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nephew K.P., Whaiey A.E., Christenson R.K., Imakawa K.; "Differential expression of distinct mRNAs for ovine trophoblast protein-1 and related sheep type I interferons."; Biol. Reprod. 48:768-778(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Spencer T.E., Bazer F.W.; "Ovine interferon to the estrogen "Ovine interferon tau suppresses transcription of the estrogen receptor and oxytocin receptor genes in the ovine endometrium."; Endocrinology 137:1144-1147(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                   KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=96174804; PubMed=8603586; DOI=10.1210/en.137.3.1144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=95062134; PubMed=7971949;
Jarpe M.A., Johnson H.M., Bazer F.W., Ott T.L., Curto E.V.,
Krishna N.R., Pontzer C.H.;
"Predicted structural motif of IFN tau.";
Protein Eng. 7:863-867(1994).
                                                                           Query Match 90.0%; Score 816; DB 2; Length 172; Best Local Similarity 91.3%; Pred. No. 8e-68; Matches 157; Conservative 7; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=96318252; PubMed=8746786;
Senda T., Saitoh S.-I., Mitsui Y., Li J., Roberts R.M.;
"A three-dimensional model of interferon-tau.";
J. Interferon Cytokine Res. 15:1053-1060(1995).
1
172 AA; 19992 MW; 65984B2F91335046 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         [3]
CIRCULAR DICHROISM ANALYSIS, AND 3D-STRUCTURE MODELING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=93250155; PubMed=8485241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3D-STRUCTURE MODELING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
TISSUE=Trophectoderm;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Caprinae, Ovis.
NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=IFNT10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SHEEP
NON TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTA SHE
008053;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TP-02)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REVIEW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INTA_
  ST
                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HID DO THE SET OF SET O
                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24 CYLSRRLMLDARENLRLLDRWARLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84 LQQTFNLFYTEHSSAAMDTTLLEQLRTGLQQQLEDLDTCRGFVMGEKDSELGKMDF1VTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            144 KKYFQGIHDYLQEKEYSDCAWEIVRVEMMRALTSSTTLQKRLTKMGGDLNSP 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Interferon tau (Fragment).
Ovis aries (Sheep).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Caprinae; Ovis.
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match 91.5%; Score 830; DB 2; Length 19
Local Similarity 92.4%; Pred. No. 4.7e-69;
Les 159; Conservative 6; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         172 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00113; Interferon; 1.
PRINTS; PR00266; INTERFERONAB.
ProDom; PD000550; Interferon_abd; 1.
SMART; SM00076; IFabd; 1.
PROSITE; PS00252; INTERFERON_A_B_D; 1.
Antiviral; Cytokine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 159; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9940;
                                              NCBI_TaxID=9925
```

Q6RFZ8

RESULT 13

q

ò

Q6RFZ8

Query Match

g ò

```
Search completed: October 28, 2005, 14:59:57 Job time : 117.5 secs
                  RESULT 15
                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
         recognition of pregnancy. Interacts with endometrial receptors, probably type I interfactor receptors, and blocks estrogen receptors, expression, preventing the estrogen-induced increase in oxytocin receptor expression in the endometrium. This results in the suppression of the pulsatile endometrial release of the luteolytic hormone prostaglandin F2-alpha, hindering the regression of the corpus luteum (luteolysis) and therefore a return to continued ovarian cyclicity. This, and a possible direct effect of IFN-tau on prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian prostaglandin synthesis, leads in turn to continued ovarian conceptus. In summary, displays particularly high antiviral and antiproliferative potency concurrently with particular weak cyclotxicity, high antiluteolytic activity and immunomodularcry in properties. In contrast with other IFNs, IFN-tau is not virally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LQOSFNLFHTERSSAAWNTTLLEQLCTGLQQQLEDLDTCRGPVMGEKDSELGKMDPIVIV 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24 CYLSQRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQEAQAFCVLYEM 83
                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: Secreted into the uterine lumen. TISSUE SPECIFICITY: Constitutively and exclusively expressed in TISSUE SPECIFICITY: Constitutively and exclusively expressed in the mononuclear cells of the extra-embryonic trophectoderm. DEVELOPMENTAL STAGE: Major secretory product synthesized by the sheep conceptus between days 13 and 21 of pregnancy. MISCELLANBOUS: IFN-tau genes are introlless. They evolved from IFN-omega genes in the ruminantia suborder and have continued to duplicate independently in different lineages of the ruminantia. They encode for proteins very similar in sequence but with different blological potency and pattern of expression. SIMILARITY: Belongs to the alpha/beta interferon family. IFN-alphaII subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PÉGN, PPÓ0143; Interferon; 1. PRINTS; PRO0266; INTERFERONAB.
PRODOM; PD000550; Interferon abd; 1. PROSITE; PS00252; INTERFERON A B D; 1. Antiviral; Cytokine; Glycoprofein; Hormone; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 195;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          By similarity.
Interferon tau-10.
By similarity.
By similarity.
N-linked (GlcNAc. . .) (Pot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88.9%; Score 806; DB 1;
89.5%; Pred. No. 7.9e-67;
live 9; Mismatches 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M88770; AAA31504.1; -.
PIR; 147067; 147067.
HSSP; P56828; 1B5L.
InterPro; IPR009079; 4 helix cytokine.
InterPro; IPR000471; Interferon_abd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22069 MW;
 Biochimie 80:755-777(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 154; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24 1
24 1
52 1
101 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pregnancy; Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
DISULFID
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
```

```
61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GO; GO:0005126; F:hemacopoietin/interferon-class (D200-domain. ..; IEA. GO; GO:0005952; P:defense response; IEA. InterPro; IPR009079; 4-helix_cytokine. InterPro; IPR000471; Interferon_abd. Pfam; PF00143; Interferon; 1. Proposition interferon; 1. Proposition interferon interferon; 1. Proposition interferon i
                                                                              05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
Interferon-tau 4b (Interferon-tau 4c) (Interferon-tau 4d) (Interferon-tau 4d).
Capra hircus (Goat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSRKIMIDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24 CYLSRRLMLDARENLRLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFSVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ealy A.D., Wagner S.K., Sheils A.E., Whitley N.C., Kiesling D.O.
Barbato G.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (UUL-2003) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: Belongs to the alpha/beta interferon family.
EMBL, AY357331; AAG56201.1; -.
EMBL, AX357334; AAG56201.1; -.
EMBL, AX357334; AAG56201.1; -.
EMBL, AX357330; AAG56201.1; -.
EMBL, AX357330; AAG56201.1; -.
EMBL, AX357330; AAG56203.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88.6%; Score 804; DB 2; Length 19
90.1%; Pred. No. 1.2e-66;
tive 8; Mismatches 9; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS00252; INTERFERON_A_B_D; 1.
Antiviral; Cytokine.
SEQUENCE 195 AA; 22354 MW; D364AC9A972D8FC4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C:extracellular; IEA.
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 155; Conservative
PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GO; GO:0005576;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
```

φ

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 KKYFQGIYDYLQEKCYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INDIVIDUAL ISOLATE: amino acid sequence of a mature OviFntau protein SEQUENCE DESCRIPTION: SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 899; DB 14; Length 172;
Pred. No. 9.9e-88;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Application US/10346269
Publication No. US20030219405A1
GENERAL INFORMATION:
APPLICANT: Sokawa, Yoshihiro
APPLICANT: Liu, Chilh-Ping
TITLE OF INVENTION: Oral Administration of Interferon-tau
FILE REFERENCE: 55600,8009.US00
CURRENT APPLICATION NUMBER: US/10/346,269
CURRENT FILING DATE: 2003-01-16
PRIOR APPLICATION NUMBER: US 60/349,658
PRIOR PELING DATE: 2002-01-16
NUMBER OF SEQ ID NOS: 3
SOFTWARE: FastSEQ for Windows Version 4.0
                                 MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/029,890
PILING DATE: 2.1-Dec-2001
CLASSIFICATION: <UNKnown>
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: amino acid encoded by SEQ ID NO:1
US-10-346-269-2
                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNAY ON THE STATE OF THE STATE OF S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 172 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Artificial Sequence
READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 98.8
Matches 170; Conservative
COMPUTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-029-890-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-346-269-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

Score 899; DB 15; Length 172; Pred. No. 9.9e-88;

99.1**%**; 98.8**%**;

Query Match Best Local Similarity

Search completed: October 28, 2005, 15:05:44 Job time : 117 secs

9

Ŋ

```
APPLICANT: Sokawa, Yoshiro
APPLICANT: Liu, Chih-Ping
TITLE OF INVENTION: Composition for Treatment of and Method
TITLE OF INVENTION: Of Monitoring Hepatitis C Virus Using Interferon-tau
TITLE OF INVENTION: Of Monitoring Hepatitis C Virus Using Interferon-tau
FILE REFERENCE: 5600-0004.30
CURRENT APPLICATION NUMBER: US/09/910,406C
CURRENT FILING DATE: 2000-10-17
PRIOR FILING DATE: 2000-10-17
PRIOR PRILING DATE: 2000-01-17
PRIOR FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2.
                                                                                                                                                     61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LQOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDPIVTV 120
                                                                                                                           61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                             1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSRKLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                              121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                       121 KKYFQCIYDYLQEKGYSDCAWEIVRVEWMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Johnson, Howard M.
TITLE OF INVENTION: Orally-Administered Interferon-Tau
Compositions and Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.1%; Score 899; DB 10; 98.8%; Pred. No. 9.9e-88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Schiffenbauer, Joel
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2, Application US/09910406C; Publication No. US20030049277A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/10029890
Publication No. US20030012766A1
GENERAL INFORMATION: GOS, Jeanne M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 98.8
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Palo Alto
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY: USA
ZIP: 94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Ovis Aries
                                                                                                                                                                                                                                                                                                                                                    RESULT 13
US-09-910-406C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-910-406C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-029-890-2
                                                                        엄
                                                                                                                           ઠે
                                                                                                                                                                          g
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .;
0
61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                        121 KKYPQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKNGGDLNSP 172
                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 899; DB 9; Length 172;
Pred. No. 9.9e-88;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         amino acid sequence of a mature
OvIFNtau protein
                                                                                                                                                                                                                                                                                                                                                                              Compositions and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/746,919
                                                                                                                                                                                                                                                                                                                        APPLICANT: Johnson, Howard M.
APPLICANT: Johnson, Howard M.
TITLE OF INVENTION: Interferon Tau Composi
TITLE OF INVENTION: Methods of Use
NUMBER OF SEQUENCES: 44
CORRESPONDENCE ADDRESS:
ADDRESSE: Dehlinger & Associates
STREET: 350 Cambridge Ave., Suite 250
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Dehlinger, Peter J.
REGISTRATION NUMBER: 28,006
REFERENCE/DOCKET NUMBER: 5600-0001.36
TELECOMMUTCATION INFORMATION:
TELEPHONE: 650-324-0880
TELEPAX: 650-324-0960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/438,753
FILING DATE: 10-MAY-1995
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/139,891
FILING DATE: 19-0CT-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/847,741
FILING DATE: 09-MAR-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1989
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 02-MAR-1989
PRIOR APPLICATION NUMBER: US 07/318,050
FILING DATE: 30-0CT-1999
APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-0CT-1999
APPLICATION NUMBER: US 07/969,890
FILING DATE: 30-0CT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/045,467
                                                                                                                                                                                                                                                  Sequence 2, Application US/09746919
Patent No. US20020013452A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 98.8%;
Matches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 172 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: protein ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTRY:
                                                                                                                                                                                                                              US-09-746-919-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-746-919-2
                                                                                                                                                                                                    RESULT 12
                                                                          ò
                                                                                                                      셤
```

9

Gaps

ö

Indels

Length 172;

ò 셤

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CYLSERLMIDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSERIMLDARENLKLIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Recombinant IFNTau Based on Ovis aries Sequence US-11-078-608-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      , OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence US-11-040-706-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FULLICATION NO. USZUOSOZZAB45A1

GENERAL INFORMATION:
APPLICANT: Liu, Chih-Fing
APPLICANT: Liu, Chih-Fing
APPLICANT: Villarete, Lord treatment using interferon-tau
TITLE OF INVENTION: Method of treatment using interferon-tau
FILE REFERENCE: 55600-8014.US05
CURRENT FILING DATE: 2005-01-21
PRIOR FILING DATE: 2004-00-02
PRIOR PLICATION NUMBER: US 10/884,741
PRIOR PLICATION NUMBER: US 10/824,710
PRIOR PLICATION NUMBER: US 60/552,279
PRIOR FILING DATE: 2004-03-10
PRIOR FILING DATE: 2004-03-14
PRIOR PLICATION NUMBER: US 10/825,382
PRIOR FILING DATE: 2004-04-14
PRIOR PLICATION NUMBER: US 10/825,382
PRIOR PLICATION NUMBER: US 10/825,382
PRIOR PLICATION NUMBER: US 10/825,382
PRIOR PLICATION NUMBER: US 60/552,279
PRIOR PLICATION NUMBER: US 60/552,279
PRIOR PLING DATE: 2004-04-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 172;
                                                                                                                                                                                                                                                                                                                                                                                      Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%; Score 907; DB 20; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%; Score 907; DB 20; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches 0;
PRIOR APPLICATION NUMBER: US 11/040,706
PRIOR FILING DATE: 2005-01-21
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3, Application US/11040706
Publication No. US20050226845A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Artificial
                                                                                                                                                                                                                         ORGANISM: Artificial
                                                                                                                                                                LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-11-040-706-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 3
                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
TITLE OF INVENTION:
TITLE OF INVENTION: Methods for Treatment of Obesity and for Promotion of Weight Loss
FILE REFERENCE: 55600-8012.US01
CURRENT PAPLICATION NUMBER: US/10/991,653
CURRENT FILING DATE: 2004-11-17
PRIOR APPLICATION NUMBER: US 60/523,077
PRIOR APPLICATION NUMBER: US 60/532,851
PRIOR FILING DATE: 2003-12-24
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LOOSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQVMGBEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Villarete, Lorelie H.
APPLICANT: Xiron, Stephen N.
TITLE OF INVENTION: Method of Optimizing Treatment with Interferon-Tau
FILE REFERENCE: 55600-8014.US06
CURRENT APPLICATION NUMBER: US/11/078,608
CURRENT FILING DATE: 2004-03-10
PRIOR APPLICATION NUMBER: US 06/552,279
PRIOR FILING DATE: 2004-03-10
PRIOR FILING DATE: 2004-04-14
PRIOR PLILING DATE: 2004-04-14
PRIOR PLILING DATE: 2004-04-14
PRIOR FILING DATE: 2004-04-14
PRIOR PLILING DATE: 2004-04-14
PRIOR PLILING DATE: 2004-04-14
PRIOR PLILING DATE: 2004-04-14
PRIOR APPLICATION NUMBER: US 10/825,382
PRIOR PLILING DATE: 2004-04-14
PRIOR APPLICATION NUMBER: US 10/825,457
PRIOR PLILING DATE: 2004-04-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CYLSERLMIDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                             121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Recombinant IFNTau Based on Ovis Aries Sequence US-10-991-653-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                            121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLOKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              uvery match 100 0%; Score 907; DB 18; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches n.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3, Application US/11078608 Publication No. US20050201981A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                       ; Sequence 3, Application US/10991653; Publication No. US20050147588A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial
                                                                                                                                                                                                                                                           -10-991-653-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -11-078-608-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
                                                                                                                                                                                                                         RESULT 9
```

ò

ઠે

m

```
SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                         LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-824-710-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                 SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 LQQSFNLFYTEHSSAAMDTTLLEQLCTGLQQQLDHLDTCRGQWMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSERLMLDARENLKILIDRMNRLSPHSCLQDRKDFGLPQGMVEGDQLQKDQAFPVIYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 CYLSERLMLDARENLKLIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                       1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence US-10-884-741-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:

// OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence

US-10-825-382-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/10825382;
Publication No. US20050118137A1;
GENERAL INFORMATION:
APPLICANT: Ull. Chih-Ping
APPLICANT: Villarete, Lorelie H.
TITES OF INVENTION: Method of Treatment Using Interferon-TAU
FILE REFERENCE: 5560-8014.US01.
CURRENT APPLICATION NUMBER: US/10/825,382
CURRENT APPLICATION NUMBER: US/10/825,382
PRIOR APPLICATION NUMBER: US 60/552,279
PRIOR PILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
LENGTH: 172
                                                                                                                                                                                                                                                                                                                                  Query Match 100.0%; Score 907; DB 17; Length 172; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 907; DB 17; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches 0;
                                     PRIOR APPLICATION NUMBER: US/10/824,710
PRIOR FILING DATE: 2004-04-14
PRIOR PPLICATION NUMBER: US 60/552,279
PRIOR PILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
LENGTH: 172
CURRENT APPLICATION NUMBER: US/10/884,741 CURRENT FILING DATE: 2004-07-02
                                                                                                                                                                                                                            ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-825-382-3
                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRQQVMGEEDSELGNMDFIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 LOOSFNIFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 CYLSERLMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CYLSERIMLDARENLKILDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CYLSERLMIDARENLKILIDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; FEATURE:
; OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence
US-10-825-457-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; FEATURE:
; OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence
US-10-824-710-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
US-10-825-457-3
; Sequence 3, Application US/10825457
; Publication No. US20050118138A1
; GENERAL INFORMATION:
APPLICANT: Liu, Chih-Ping
; APPLICANT: Liu, Chih-Ping
; TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
; TITLE OF INVENTION: Method of Total Correct of CURRENT APPLICATION NUMBER: US/10/825,457
; CURRENT FILING DATE: 2004-04-14
; PRIOR APPLICATION NUMBER: US 60/552,279
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/10824710
Publication No. US20050142109A1
GENERAL INFORMATION:
APPLICANT: Liu, Chin-Ping
APPLICANT: Villarete, Lorelie H.
TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
FILE REFERENCE: 5560-8014.US/10/824,710
CURRENT FILING DATE: 2004-04-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 907; DB 17;
100.0%; Pred. No. 1.4e-88;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 907; DB 18;
100.0%; Pred. No. 1.4e-88;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/552,279
PRIOR FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 4
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 172; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
LENGTH: 172
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                               유
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                  61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 CYLSERLMLDARENLKCLIDRMNRLSPHSCLQDRKDFGLPQGRWUGGDQLQXDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . OTHER INFORMATION: recombinant mature ovine IFNtau, based on SEQ ID NO:1.
US-10-683-214-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Manilog, Mark C.
APPLICANT: Manilog, Mark C.
APPLICANT: Mayar, Rajiv
TITLE OF INVENTION: Oral formulations for proteins and polypeptides
FILE REFERENCE: 55600-6011.0500
CURRENT APPLICATION NUMBER: US/10/683,214
CURRENT FILING DATE: 2003-10-07
PRIOR PILING DATE: 2003-10-09
NUMBER OF SEQ ID NOS: 18
SOFTWARE: Patentin version 3.1
LENGTH: 172
                                                                                                          KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIDEAL INFORMATION:
PUBLICANT: SOKAWA, YOSHINIO
PUBLICANT: SOKAWA, YOSHINIO
PAPELICANT: LALU, Chih-Ping
TITLE OF INVENTION: Wethod of treatment using interferon-tau
TITLE OF INVENTION: Wethod of treatment using interferon-tau
FILE REFERENCE: 55600-8013.US00
CURRENT APPLICATION NUMBER: US/10/719,472
PRIOR APPLICATION NUMBER: US/10/698,927
PRIOR APPLICATION NUMBER: US/0699,927
PRIOR APPLICATION NUMBER: US 09/910,406
PRIOR FILING DATE: 2001-07-19
PRIOR FILING DATE: 2001-07-19
PRIOR FILING DATE: 2001-07-19
PRIOR FILING DATE: 2000-07-19
PRIOR FILING DATE: 2000-07-16
PRIOR APPLICATION NUMBER: US 60/349,658
PRIOR FILING DATE: 2002-01-16
PRIOR FILING DATE: 2003-01-16
PRIOR FILING DATE: 2002-01-16
PRIOR FILING DATE: 2002-01-16
PRIOR FILING DATE: 2002-01-16
PRIOR FILING DATE: 2003-01-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 907; DB 16; Length 172; 100.0%; Pred. No. 1.4e-88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                     US-10-683-214-2
; Sequence 2, Application US/10683214
; Publication No. US20040126360Al
; GENERAL INPORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3, Application US/10719472
Publication No. US20040191217A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
Matches 172; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JS-10-719-472-3
                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
                                                g
                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                    61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEBDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 LOOSFNLFYTEHSSAAWDTTLLEQLCTGLOOQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 LQQSFNLFYTEHSSAAWDTTLLEQLCTGLQQQLDHLDTCRGQVMGEEDSELGNMDPIVTV 120
                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 CYLSERLMIDARENIKLIDRMNRISPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CYLSERLMLDARENIKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPULYEM 60
                                                                                                                                                                                                                                                                                       1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                                                                                                                     1 CYLSERLMLDARENLKLLDRMNRLSPHSCLQDRKDFGLPQEMVEGDQLQKDQAFPVLYEM
                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                         ; FEATURE:

† OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence
US-10-719-472-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALIVSTTLOKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence US-10-825-068-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 KKYFQGIYDYLQEKGYSDCAWEIVRVEMMRALTVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                                                                     Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
APPLICANT: Villarete, Lorelie H.
TITLE OF INVENTION: Method of Treatment Using Interferon-TAU
FILE REFERENCE: 55600-8014.0S03
CURRENT APPLICATION NUMBER: US/10/825,068
CURRENT FILING DATE: 2004-04-14
PRIOR APPLICATION NUMBER: US 60/552,279
PRIOR FILING DATE: 2004-03-10
NUMBER OF SEQ ID NOS: 4
SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3, Application US/10884741
Publication No. US20050084478A1
GENERAL INFORMATION:
APPLICANT: Liu, Chih-Ping
APPLICANT: Liu, Chih-Ping
TILE OF INVENTION: Method of freatment Using Interferon-TAU
FILE REPERENCE: SS600-8014.US00
                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                  Query Match 100.0%; Score 907; DB 16; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 907; DB 16; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/10825068
Publication No. US20040247565A1
GENERAL INFORMATION:
TYPE: PRT
ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 3
LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-825-068-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
US-10-884-741-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
```

```
US-09-910-406C-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFORM
US-09-910-406C-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 172
                                                                                                                                                                                                                                                                                                                                                                                                                                          861.5
861.5
778
778
778
727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 653
653
653
613
613
613
613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                      (without alignments) 636.313 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3, Sequen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 3,
Sequence 3,
Sequence 3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 4,
Sequence 2,
                                                                                                                                                                                                                                                                                                                           1 CYLSERLMLDARENLKLLDR.....TVSTTLQKRLTKMGGDLNSP 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Published Applications AA:*

1: /cgn2_6/ptodata/1/pubpaa/PCT_TRW PUB.COMB.pep:*

2: /cgn2_6/ptodata/1/pubpaa/PCT_TRW PUB.Cepp:*

4: /cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/USO6_NEW_PUB.pep:*

5: /cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*

6: /cgn2_6/ptodata/1/pubpaa/USO7_NEW_PUB.pep:*

7: /cgn2_6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*

8: /cgn2_6/ptodata/1/pubpaa/USO8_NEW_PUB.pep:*

9: /cgn2_6/ptodata/1/pubpaa/USO8_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/USO9E_PUBCOMB.pep:*

11: /cgn2_6/ptodata/1/pubpaa/USO9E_PUBCOMB.pep:*

12: /cgn2_6/ptodata/1/pubpaa/USO9E_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/USO9E_PUBCOMB.pep:*

14: /cgn2_6/ptodata/1/pubpaa/USO0B_PUBCOMB.pep:*

15: /cgn2_6/ptodata/1/pubpaa/USO0B_PUBCOMB.pep:*

16: /cgn2_6/ptodata/1/pubpaa/USO0B_PUBCOMB.pep:*

17: /cgn2_6/ptodata/1/pubpaa/USO0B_PUBCOMB.pep:*

18: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

19: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

10: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

11: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

12: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

13: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

14: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*

15: /cgn2_6/ptodata/1/pubpaa/USOOB_PUBCOMB.pep:*
                                                                                                                                                            October 28, 2005, 14:52:27 ; Search time 113 Seconds
GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-910-406C-4
US-10-683-214-2
US-10-719-412-3
US-10-825-068-3
US-10-825-382-3
US-10-825-382-3
US-10-825-382-3
US-10-825-382-3
US-10-825-382-3
US-10-825-382-3
US-10-825-382-3
US-10-825-382-3
US-10-825-382-3
US-11-078-608-3
US-11-078-608-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1865214 segs, 418043040 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                      OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-719-472-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9907
9907
9907
9907
9907
9907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Result
No.
```

```
Sequence 2, Appli
                                                                                                                       Sequence 54, Appl
Sequence 47, Appl
Sequence 11, Appl
Sequence 11, Appl
Sequence 58, Appl
Sequence 58, Appl
                                                                                                                                                                              Sequence 44, Appl
Sequence 4, Appli
Sequence 4, Appli
Sequence 4, Appli
                                                                                                                                                                  Sequence 58, App
Sequence 4, Appli
Sequence 44, Appl
                                                                                                                                                                                          Sequence 4, A
Sequence 4, A
Sequence 44,
                                                                                                                                                             Sequence
US-10-029-890-4
US-10-694-247-4
US-10-794-495-4
US-10-794-495-44
```

ALIGNMENTS

```
Sequence 4, Application US/09910406C

Publication No. US20030049277A1

FORERAL INFORMATION:

APPLICANT: Sokawa, Yoshiro

APPLICANT: Liu, Chih-Ping

ITILE OF INVENTION: Of Monitoring Hepatitis C Virus Using Interferon-tau

FILE REFERENCE: S600-0004.30

CURRENT PILICA DATE: 2000-0004.30

CURRENT PILICA DATE: 2000-10-10

PRIOR FILING DATE: 2000-10-17

PRIOR FILING DATE: 2000-10-17

PRIOR FILING DATE: 2000-10-17

PRIOR FILING DATE: 2000-07-19

NUMBER OF SEQ ID NOS: 4

NUMBER OF SEQ ID NOS: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: recombinant IFNtau based on Ovis aries sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 100.0%; Score 907; DB 10; Best Local Similarity 100.0%; Pred. No. 1.4e-88; Matches 172; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Artificial Sequence
```

ö

9 9